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CONSUMERS' RESEARCH

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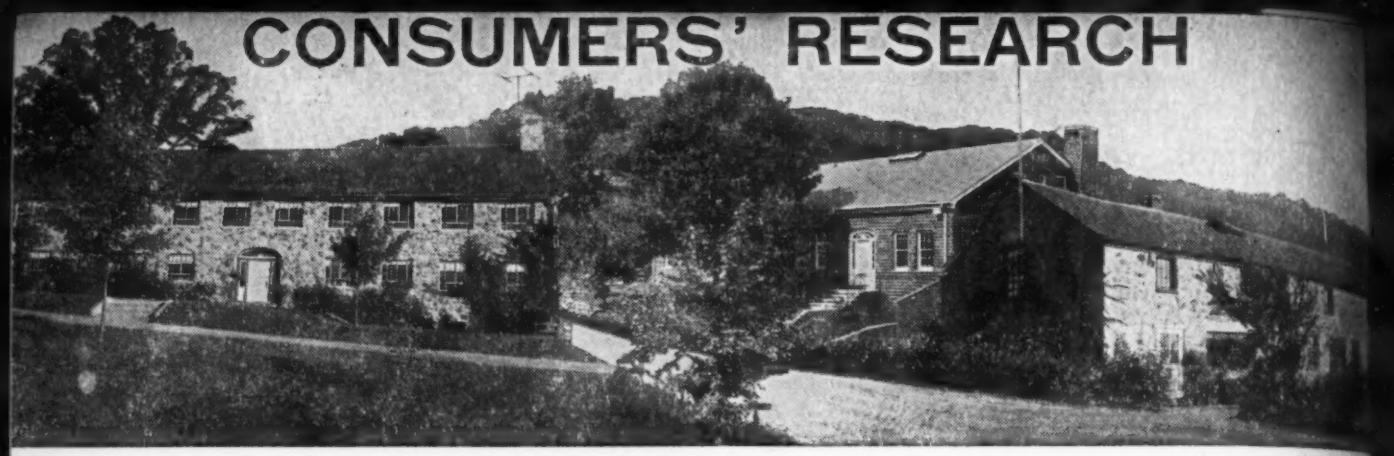

Vol. 14 • No. 5 **BULLETIN** November 1944

Off the Editor's Chest

THE end of rationing of all foodstuffs in the near future predicted by War Mobilization Director Byrnes early in September will undoubtedly bring large-scale advertising campaigns by the various food manufacturers, processors and others whose products have been restricted or rationed during the war years. Already the sugar producers and refiners have set up the Sugar Research Foundation for the announced purpose of making "scientific studies on sugar as a food from the viewpoints of diet and relative costs," and, of course, looking for expanding industrial uses.

It is apparent from some of the literature and publicity releases emanating from this outfit that there is a certain anxiety about the possibility that nutritionists may be successful in the campaign they have carried on in recent years to reduce sugar consumption very materially. One of the Foundation's spokesmen urges that "a major movement to substitute other foods for sugar would raise the cost of living" and "create a serious economic problem for low income groups."

In the first place, it should be pointed out that sugar ought rightly to be considered a flavoring or condiment rather than as an essential or staple food consumed regularly in sizable quantities. As H. C. Sherman has said in his book, *Food Products*, "Candied fruits, milk chocolate, ice cream, and so on, are sometimes cited as sweets which convey mineral and vitamin values, and this is true to the extent that they contain fruit, milk, or other of the foods which are good sources of mineral elements and vitamins; but the sugar itself contributes nothing to the food value except as a source of calories."

When we look on the debit side of the part sugar plays in the American dietary, we find considerable evidence to indicate that many, if not indeed most, Americans would be greatly benefited and improved in health if they were to cut down drastically the quantities of sugars and sweets, such as candy, soft drinks, ice cream, and the like, that they consume daily. In the short space of one editorial it is possible to touch only briefly on the large and steadily growing body of scientific data and opinion that indicates the deleterious effect on health of our present high sugar consumption. Some of the more representative highlights, however, can be quickly summarized.

Dr. Kenneth A. Easlick, Associate Professor of Operative and Public Health Dentistry, University of Michigan, writing in a dental journal says: Searching out the utilization of "sugar in the family diet, is not an attempt to put mother on the defensive—not at all. It does show the many ways in which sugar insinuates itself into the usual American family diet. Back in Paul Revere's time (Paul Revere, you know, was one of the earliest American dentists!), almost no pure sugar was consumed, and there was very little need for dentistry. Figures indicate that the last year before rationing about one hundred seventeen pounds of sugar per person were consumed in the United States. At the same time less than five young adults per hundred had escaped decayed teeth. . . .

"The mistaken notion is frequent, even among

(Continued on page 22)

Scientific and Technical Experts and Editors: F. J. Schlink, R. Joyce, M. C. Phillips, A. R. Greenleaf, and Charles L. Bernier. Editorial Assistant: Mary F. Roberts.

Symbols used to indicate sources of data and bases of ratings: A—recommended on basis of quality; AA—regarded as worthy of highest recommendation; B—intermediate with respect to quality; C—not recommended on basis of quality; cr—information from Consumers' Research's own tests or investigations; 1, 2, 3—relative prices, 1 being low, 3 high. Note that price and quality are completely differentiated in CR's listings; **a quality judgment is independent of price**; 43, 44—year in which test was made or information obtained or organized by the staff of Consumers' Research.

It will be advantageous if you will, whenever possible, send prompt notice of change of address at least a month before it is to take effect, accompanying your notice with statement of your old address with name in full. At least three weeks' notice must be given in any case. This rule, however, regarding long advance notice does not apply to military personnel. *Changes of address for men and women in the services will gladly be handled whenever required.*

★★★For a brief cumulative index of 1944 BULLETINS preceding this issue, see page 26.

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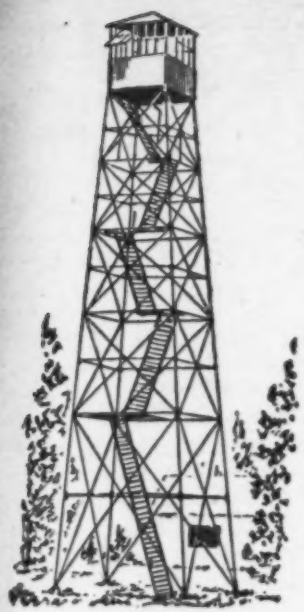

The Consumers' Observation Post

CHRISTMAS TOYS are expected to be of better quality this year than those of the cardboard variety that flooded the counters last year. There will be plenty of wooden toys, jigsaw puzzles, games, and hobby toys --according to one report--but as yet no new mechanical toys, roller skates, ice skates, or velocipedes. Dolls and stuffed animals are expected to be few in number and expensive. The all-wooden wagons with wooden wheels are not expected to find many customers; there were too many complaints that the wheels performed poorly and were too easily broken.

* * *

PEOPLE in the United States like to think they can eat as they please and then take their essential nutritional factors, minerals and vitamins in pill form. Currently the vitamin pills are the fashionable cure-all. It is being observed in nutritional circles that one of the greatest deficiencies in the American diet is lack of amino acids, due to too limited use by the average American of high-quality protein foods such as meat, milk, cheese, and eggs. One alert trade paper columnist points out that plans are already under way to market predigested amino acid preparations in tablet or powder form; he wonders why intelligent people can be persuaded to pay high prices for such products when the original protein foods from which they are made taste so much better and cost less.

* * *

SYTONS and RESLOOMING are two terms to watch out for in post-war advertising of textiles. Sytons is the name of a group of compounds being developed by the Monsanto Chemical Company to be sponged or sprayed on stockings to prevent runs and to keep slips from creeping, according to Science News Letter. Reslooming is the same company's process for prolonging the life of a trouser crease by treating the material with a new plastic compound. All woolens treated by this process will, it is promised, be made shrink-proof and wrinkle-proof. At the present time use of these compounds is restricted to military needs, but, comes the end of the war, supplies will be available to do the job at home if desired.

* * *

BROCCOLI LEAVES make an excellent addition to chicken feed, according to recent experiments by the U. S. Department of Agriculture. Victory gardeners will be glad to know that their practice of feeding end-of-the-season broccoli plants to their chickens has a sound nutritional basis. The Department of Agriculture researchers discovered that dried broccoli leaves had a high vitamin content and protein content higher than alfalfa and even that the addition of the broccoli to the chicken's feed definitely improved the flavor of the meat.

* * *

RECONDITIONING of vast quantities of Portuguese and Spanish brandies has been required by California health inspectors as the result of a routine inspection of a West Coast wholesale liquor establishment. It was discovered that practically all imported Portuguese brandies and several of Spanish origin were contaminated with particles of glass, apparently due to the use of defective bottles. The brandies were quarantined until they could be filtered and reconditioned.

CORDUROY suits for women have been advertised in some sections this past fall and this material has, of course, long been a favorite fabric for boys' pants. If it is the washable variety, it needs special handling to keep its good appearance. Expert advice calls for the use of lukewarm water and mild soapsuds—lots of them. Squeeze the suds through the garment but do not wring it at any time. Rinse thoroughly in two or three waters, lifting the garment so that the nap will not be crushed. Next, fold the garment in a bath towel to remove the excess water and then hang it on a clothes hanger out of doors where the water can run down the nap. When it is almost dry, brush it along the nap to keep it smooth and press it on the wrong side. Then brush it along the nap again.

* * *

FROZEN CONCENTRATED MILK has been developed by F. J. Doan and J. G. Leeder working at Pennsylvania State College, that will provide servicemen in foreign countries with a supply of milk comparable to the fresh product. The new process will enable hospital ships to be stocked with frozen concentrated milk at American ports and since the new product will keep for several weeks, the ships should be well supplied until their return trip. After the war, this new process may provide a means for storage of milk during the season of surplus.

* * *

MANY OF THE WARTIME RESTRICTIONS on shoe styles were removed by a War Production Board order which became effective August 28, 1944. Leather shoes may now be made in any color and those hard-to-find navy blues ought to be available next spring. Leather bows may be used again and high heels are again permitted—although women have always been able to find some shoes of this type. It is to be hoped, however, that in the interests of women's foot health and comfort, the wartime fashion of low or medium heels will continue to be popular.

* * *

BLUISH AND GREENISH-BLUE STAINS are sometimes deposited on fabrics in regions where the water is very soft and where it runs through copper or brass pipes or tanks. Where this occurs, New Hampshire Health News warns, water from the hot-water system should not be used for cooking or drinking. Discoloration of fabrics caused by the copper stains can be removed by soaking in warm water containing a little ammonia. Stains on porcelainware can be removed with cleansing powder applied to a cloth wet with ammonia.

* * *

ANGEL CAKES take lots and lots of eggs and are an excellent way to use up that egg surplus that is plaguing the farmers and the War Food Administration. It has been discovered by Dr. Gladys Stevenson at the University of California that eggs a bit on the stale side, from two to four weeks old, while not so good for breakfast, do make the best angel food and sponge cakes. Custards made with eggs two to three weeks old were found to be smoother than those made with fresher eggs. Of course, the eggs must not be <u>too</u> ancient, or on the edge of spoilage.

* * *

ANEMIA, thought to be caused by inadequate or improperly selected diet, was discovered to be fairly extensive at Mississippi State College and at Mississippi State College for Women. A survey made of nearly 1200 college men and women at those two institutions showed that more than one-fourth of the college men and one-third of the women had hemoglobin levels below the range for normal individuals. (Hemoglobin is a protein compound which forms the red coloring matter and oxygen-absorbing substance of the blood.) About 4 percent of the men and nearly as many of the women had red blood cell counts below normal. The need for consumption of more protein foods is clearly indicated.

* * *

<u>Little Spotlites</u>, 4 mounted on a card for 10c, are sold in Woolworth stores, and possibly in other variety chain stores. They are designed to be pasted on wall, doorjambs, and stairsteps and for locating objects such as light switches and doorknobs in the dark. The device consists of a dot about 1/4 inch in diameter of radium-luminous paint applied to a thin cardboard, on the back of which there is a bit of mucilage so that the dot can be stuck on or near the object to be marked. The <u>Spotlites</u> work fairly well and give a better, more lasting luminosity than the hands of many so-called radium-dial

(The continuation of this section is on page 29)

Linoleums and Enameled Floor Coverings

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THE home owner who purchases linoleum at the present time will find many changes in the product.

Genuine linoleum formerly could be distinguished from other floor coverings of similar general appearance by its burlap back. Until very recently, Federal Specifications called for a burlap backing on all flooring bearing the trade designation of linoleum, and as late as 1942 the Federal Trade Commission issued a complaint against one manufacturer whose "linoleum," so called, did not have a burlap backing. This distinction between linoleums and other floor coverings no longer exists, for burlap, an import from India or Scotland, is limited to military uses, and manufacturers are not permitted to use it in making products for consumers. Thus even the best linoleum now has as its backing an impregnated felt material similar to that used on the normally cheaper "enameled" floor coverings.

Paper-felt-backed floor coverings with printed enamel wearing surface have been available since 1911. Felt-backed floor covering with a linoleum composition surface was introduced to the trade about 1935 and was generally available to consumers about 1937. The home owner, therefore, has been familiar with this type of backing for a good many years, but has never before seen it used on the better grades of linoleum floor coverings.

According to claims made by the trade, felt backing, once held to be an inferior material, is better than burlap because it does not mold or rot. In CR's tests, however, some of the felt backings of the floor coverings did mold when subjected to high humidity in a dark place. The asphalt-saturated felt-backed material often has very poor resistance to tearing, and because of its plastic nature is readily susceptible to permanent damage by being dented or compressed.

Linoleums and Enameled Floor Coverings

Linoleum itself is a "mix"—a soft, gummy substance which is pressed or calendered onto a base of felt. The mix is made of finely ground cork, oxidized linseed oil, gums, and coloring matter. Sometimes wood flour, a highly pulverized sawdust, is added to the mix to make a brighter, more delicate color. This addition if used in too great an amount can lessen the wearing quality of the product. The so-called felt-base on which the mix is pressed is made up of ground-up paper and rags, saturated with asphalt to help provide resistance to moisture penetration and mold or rotting.

Of all these materials that go into the manufacture of linoleum, the linseed oil is the most difficult to obtain. Manufacturers have been limited to 70% of the amount they used during 1940-1941, principally because of the great quantities of this oil required for paints and fabrics for war use. One of the gums used is imported from New Zealand, and the supply is smaller now than before the war. Because the demand for phenolic resins is greater now, manufacturers cannot always get all the gum they need.

The enameled floor covering, although it is sometimes mistaken for linoleum and resembles it very closely in superficial appearance, is not strictly a linoleum. It is made of ground-up rags, saturated with asphalt, and finished with an oil paint surface which may be plain or patterned. Enameled floor coverings, as might be expected, do not have the wear-life of linoleums, since the pattern instead of going through to the backing is limited to the surface, like a coat of paint on a wood floor. This painted or enameled coating wears off quickly, leaving first an unsightly brown spot, then a black one where the black tarry surface is exposed. In the present test made by Consumers' Research, all the printed enameled floor coverings were so badly worn as to be unsightly very early in the test, while some of the linoleums would present a

good appearance after three to six times as long a period of mechanical rubbing and abrasion.

Types of Linoleums

Genuine linoleums are available in several different types. Plain linoleum, as the name indicates, is made in solid colors. "Battleship linoleum" is a thicker grade of this type, and is made with a burlap backing for military or naval use. Marbleized linoleum is made by combining two or more colors to give the effect of marble graining.

Inlaid linoleum is of two kinds—straight line and molded. In straight line inlaid, designs are made by laying shaped pieces of linoleum body into a design on the backing material. The whole is then formed into a single sheet by applying pressure with heat.

Molded linoleum is made by sifting the soft mix in different colors through stencils. This is done so accurately that the color designs do not overlap. This type of linoleum may be "embossed," a process which presses certain parts below the surface to give masonry or straight line effects. Embossed linoleums are attractive when seen in the store, but they should be bought with caution for they are not so easily cleaned as those with a smooth surface, and they have another disadvantage in that the raised surfaces will wear sooner than the depressed parts. This extra wear results in a marked unevenness of appearance, and for this reason, any linoleum not having a strictly level and even surface should be bought with the greatest caution if long life and continued good appearance are important.

At one time there was also available "printed" linoleum—a floor covering with a linoleum body and a printed surface. This, however, has now disappeared from the market in favor of printed enamel floor coverings.

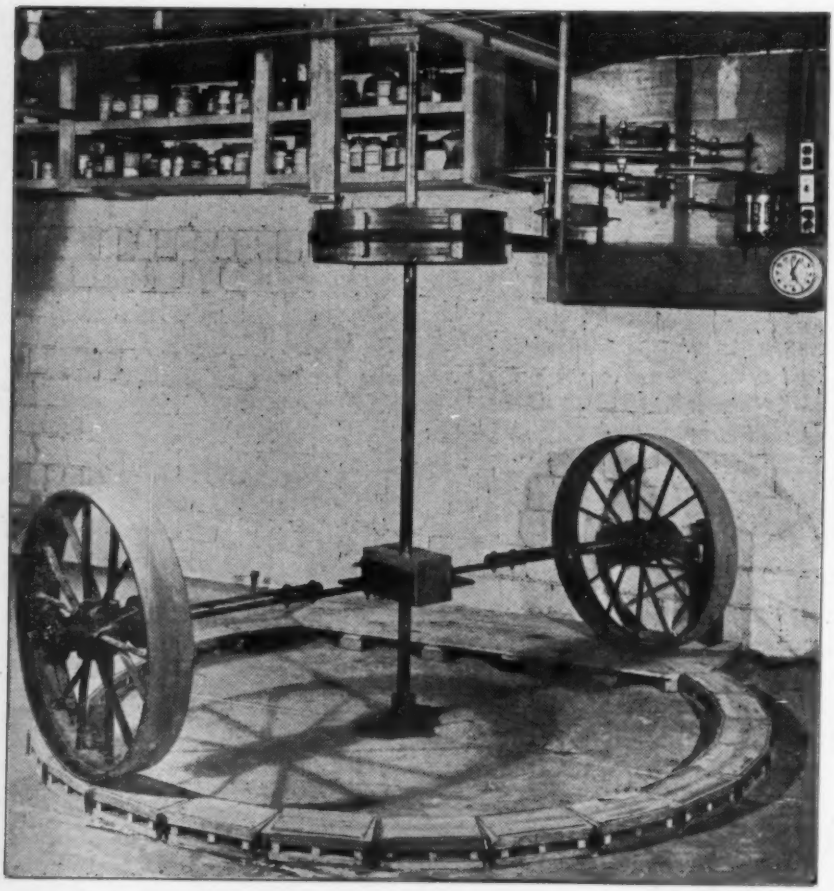


Figure 1—Machine for Testing Abrasion Resistance of Linoleums

The large wheels turning on arms affixed to the vertical rotating shaft are equipped with close-fitting flat tires made of rubber-canvas belting; they run on a circular track about 7 feet in diameter. The 19 track sections shown are made of wood finished to a true plane surface, and are of uniform size. Each block of wood carries a single piece of linoleum or enameled floor covering about 5 x 9 inches, and is pivoted to give even and reproducible contact with the wearing-wheels. The abrasive used was a fine white sand passing a 60 mesh sieve and retained on a 120 mesh sieve. The clock in the picture is connected in the motor circuit so as to totalize the time during which the wear test runs. A mechanical counter shows the total number of revolutions completed by the vertical shaft and wearing-wheels.

Thicknesses

Linoleum as made for consumers today comes in four general thicknesses—3/16 in., 1/8 in. (heavy), standard, and light gauge. For most home use, standard and light gauge linoleums have the largest sale, while the two heavier types are preferred for commercial installations. It is doubtful, however, whether the extra thickness is worth while, considering that good linoleum fails not by wearing through but by general unsatisfactory appearance

due to indenting, grooving, loss of good appearance of the pattern, etc. Enameled floor coverings are available in heavy and light weights.

Care of Linoleums

It is important that linoleum and linoleum-like material should never be laid over a floor which is not strictly smooth. The slightest ridge or unevenness will cause wear and early development of unsatisfactory appearance. The seams of the linoleum should not be in the same direction as the seams of the floor boards. Linoleum of good quality and high durability should be cemented; other types of linoleums and any short-lived floor covering should not be cemented because of the extreme difficulty of removal. A waterproof cement at the edges and seams is best to prevent the entrance of water.

When the floor of an apartment or rented home is to be covered, it may often be desirable to leave even good quality linoleum loose, so that upon leaving, the floor covering may be rolled up for removal. It is impossible to remove without damage linoleum which has been cemented down; indeed, it is often difficult to remove it satisfactorily even when it is not necessary to preserve it in good condition.

All sorts of preparations are offered for the cleaning of linoleum, but substances of unknown composition should invariably be avoided, for many of the commercial washing powders are wholly undesirable for the purpose, as they contain alkaline materials such as trisodium phosphate, tetrasodium pyrophosphate, or strong soaps. Even soap is too strong for frequent use, as it can react with the linseed oil in the linoleum mixture and make the material weak and brittle. Two or three cleanings of the floor a year with soap should be sufficient unless the use which it receives is exceptionally severe, as it might be in an office or shop. In the latter case, of course, durability must be sacrificed for maintenance of good appearance while the product lasts. Regular treatment of linoleum flooring with wax is valuable to preserve the surface from damage and wear as well as to keep good appearance. The wax should be applied thinly, and if a paste wax is used, should be polished to a hard finish which is more resistant to dirt and helps to reduce the hazard of slipping. More complete directions for the care of linoleum are in preparation and will appear in an early BULLETIN.

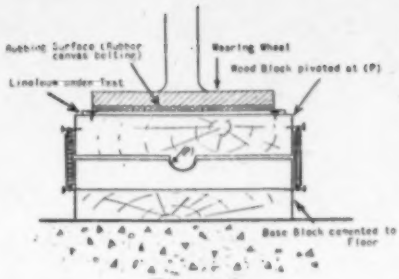

Rubbing Surface (Rubber canvas belting)
Wearing Wheel
Wood Block pivoted at (P)
Linoleum under Test
Base Block cemented to Floor

Figure 2

Cross-section of one of the short elements of the test track, with linoleum sample in place under wearing wheel.

CR's Tests

In making this test of linoleums and enameled floor coverings, Consumers' Research purchased 17 different pieces on the consumer market. Eleven of these test pieces were linoleums; six were enameled floorings closely resembling linoleum in design and appearance.

The machine for testing abrasion resistance, especially constructed by Consumers' Research for this test, consisted of two heavy wheels having close-fitting flat tires made of rubber canvas belting running on a circular track about 7 feet in diameter. This track was made in short sections, each long enough to carry a single piece of linoleum 5 by 9 inches. (See Figure 2.)

The material was subjected to a combination of rolling and abrasive wear very similar to that which is received from walking on the floor, a small but definite sliding and abrading movement being produced by the fact that the wheel traveled over a longer arc at the outside edge of the specimen pieces than at the inside edge. The several sections of board carrying the test pieces were interchanged from time to time so that each sample received an amount and kind of wear exactly duplicating the others.

Early in the test it was clear that there was a striking difference in the wearing qualities of the pieces tested. All of the enameled floor coverings were worn through to the backing material at 16,000 passages of the wheel over their surfaces. Some of the linoleums were still in very good condition and had a good appearance at 48,000 such passages, or three times as many, but it was estimated that these better linoleums would have withstood six or even more times as many such passages before wearing through, as the poorer enamel-coated coverings. This relationship gives a very good idea of the desirability of buying good linoleums rather than a

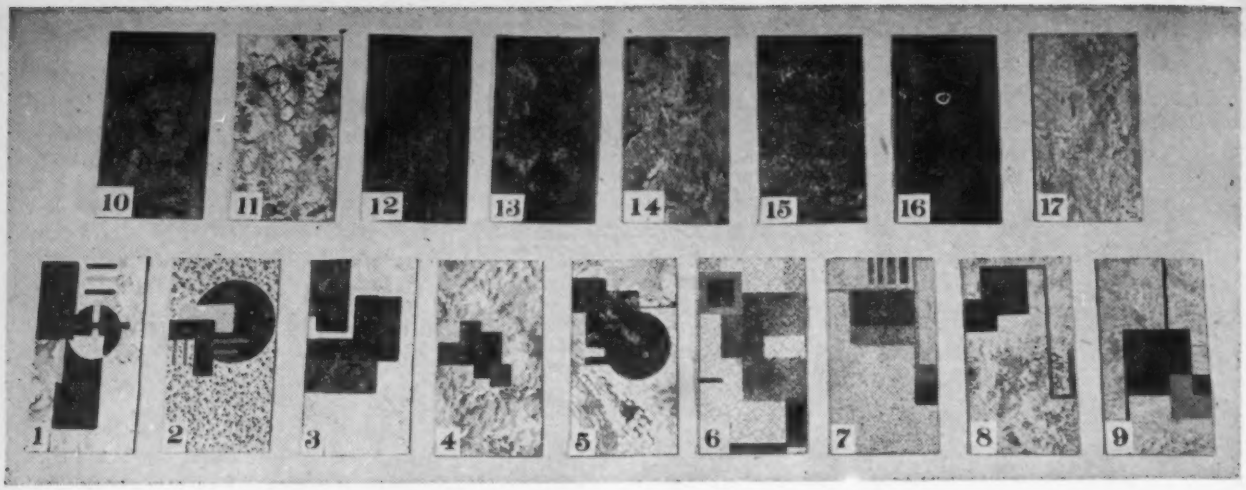


Figure 3—Samples of Linoleums Tested

No. 1—*Gold Seal Congoleum De Luxe, Pattern 854;* No. 2—*Wardoleum Printed Enamel Floor Covering, Montgomery Ward's Cat. No. 72—4026R;* No 3—*Wardoleum Printed Enamel Floor Covering, Montgomery Ward's Cat. No. 72—4426R;* No. 4—*Armstrong's Quaker, Montgomery Ward's Cat. No. 72—4406R;* No. 5—*Servistan Enameled Floor Covering, Sears-Roebuck's Cat. No. 37—1166;* No. 6—*Armstrong's Printed Enameled Floor Covering, Montgomery Ward's Cat. No. 72—4106R;* No. 7—*Armstrong, No. F-5641;* No. 8—*Nairn Treadlite De Luxe, No. 17538;* No. 9—*Congoleum Nairn Crest, Pattern No. 34001;* No. 10—*Armstrong, No. F-033-H;* No. 11—*Armstrong, No. F-0511;* No. 12—*Ward's Marbleized Linoleum, Montgomery Ward's Cat. No. 72—4173M;* No. 13—*Servistan Gibraltar Linoleum, Sears-Roebuck's Cat. No. 37—1286;* No. 14—*Nairn Crest, Pattern No. 34105;* No. 15—*Ward's Marbleized Linoleum, Montgomery Ward's Cat. No. 72—4263M;* No. 16—*Armstrong Standard Marbelle Linoleum, No. F-021-S;* No. 17—*Nairn Treadlite De Luxe, Pattern No. 17237.*

★

low-quality or imitation product, when long life with continued good appearance or economy in cost on a per-year basis is the important consideration.

The loss of material by abrasion resulting in eventual wearing out of the floor covering was probably of no greater importance than the marked deterioration in appearance because of a dirtying or graying in the coloring of the pattern which would make a floor look very unsatisfactory early in its life, even though there might be many years of possible wear remaining in it. This was particularly true in the darker colors (black and blue), some of which represented very fine linoleum in the sense of resistance to abrasive wear for a long period but were relatively poor linoleums from the standpoint of length of life which they would give while still maintaining good appearance. Cream or tan tones were much more satisfactory, as a whole, in this respect.

In order to determine how a floor covering would resist denting by objects such as the legs of stoves, refrigerators, tables, stools, or chairs, floor coverings in this test were given an "indentation test." The results in this test were in accord in general with the results of the abrasion test, so that the linoleums which showed good resistance to abrasion also had good resistance to damage by indentation.

A. Recommended

Armstrong Standard Marbelle Linoleum, No. F-021-S (Armstrong Cork Co., Lancaster, Pa.) $1.49 per sq. yd. (*See* No. 16 in halftone Figure 3.) Black marbleized linoleum. Appearance after wear test, fair; showed dull streaks deviating noticeably from the original appearance so that due to the contrast of worn and unworn parts of the floor, the floor as a whole would have an uneven and unsatisfactory look. Resistance to abrasive wear, very good. Considerable mold formation visible after storage under very damp condition in darkness, for several weeks. **2**

Congoleum Nairn Crest, Pattern No. 34001 (Congoleum-Nairn, Inc., Kearny, N.J.) 98c per sq. yd. (*See* No. 9 in halftone Figure 3.) Inlaid linoleum with cream-colored mottled background, with light blue, red, and gray pattern. Appearance after wear test, good; did however show streaks having a dirty appearance. Resistance to wear, fair. Considerable mold formation visible after damp, dark storage. **2**

Nairn Crest, Pattern No. 34105 (Congoleum-Nairn, Inc.) 98c per sq. yd. (*See* No. 14.) Cream, blue, orange, and black marbleized linoleum. Appearance after wear test, fair; showed streaks having a dirty appearance. Resistance to wear, fair. Considerable mold formation. **2**

Servistan Gibraltar Linoleum (Sears-

Roebuck's Cat. No. 37—1286) $1.34 per sq. yd., plus transportation. (*See* No. 13.) Blue marbleized linoleum. Appearance after wear test, good; but showed streaks having a dirty appearance. This linoleum, though in most respects highly satisfactory, would not be suitable for areas such as those near an entry, where sand or harsh abrasive dirt is commonly tracked in. Resistance to wear, very good. Considerable mold formation. **2**

Armstrong Heavy Marbelle Linoleum, No. F-033-H (Armstong Cork Co., Lancaster, Pa.) $2.25 per sq. yd. (*See* No. 10.) Brown marbleized linoleum. Appearance after wear test, good, but showed dulling of color and tone as compared with the original appearance. Resistance to abrasive wear, very good. No visible mold formation. **3**

Armstrong Straight Line, No. F-0511 (Armstrong Cork Co.) $1.65 per sq. yd. (*See* No. 11.) Tan, brown, green, and red marbleized inlaid linoleum. Appearance after wear test, while altered somewhat from the original appearance, was, comparatively speaking, judged to be very good—easily the best of those tested. Resistance to wear, good. Some mold formation. **3**

B. Intermediate

Ward's Marbleized Linoleum (Montgomery Ward's Cat. No. 72—4263M) $1.29 per sq. yd. plus transportation. (*See* No. 15.) Blue marbleized linoleum. Appearance after wear test, fair, showed streaks having a dirty appearance. Resistance to wear, good. Very little mold formation. **2**

Nairn Treadlite De Luxe, Pattern No. 17237 (Congoleum-Nairn, Inc.) $1.65 per sq. yd. (*See* No. 17.) Cream, gray, black, and blue marbleized linoleum. Appearance after wear test, relatively good. Resistance to wear, fair. Considerable mold formation. **3**

Nairn Treadlite De Luxe, Pattern No. 17538 (Congoleum-Nairn, Inc.) $1.65 per sq. yd. (*See* No. 8.) Inlaid linoleum with mottled cream background with maroon, red, and green pattern. Appearance after wear test, relatively unsatisfactory; considerable over-all dirtying effect. Resistance to wear, fair. Very little mold. **3**

* * *

Of the printed or enameled floor coverings, all were rated as inferior in quality, on account of their rapid wear as compared with linoleums, and only one of the printed linoleums was considered to warrant even a low *B* rating. The true linoleums were three to seven times as expensive as the printed materials. Even at a price several times as high, the better linoleums were to be preferred if long life is an important factor in the particular location in which the linoleum is to be used. There will of course be some cases, as where it is a question of giving a good appearance to a floor in a spare room or sewing room which has very little use, where the purchase of a printed or enameled floor covering would be well justified.

All the enameled or printed floor coverings listed (chiefly in the *C. Not Recommended* group) gave poor performance with very unsatisfactory appearance after the wear test, and poor or very poor resistance to abrasion.

Servistan Enameled Floor Covering, Duralin De Luxe Quality (Sears-Roebuck's Cat. No. 37—1166) 47c per sq. yd., plus transportation. (*See* No. 5.) Mottled tan and brown enameled floor covering with orange, blue, and brown geometric pattern. Probably the best of the enameled floor coverings tested. Very little mold formation. **1**

C. Not Recommended

Armstrong's Printed Enameled Floor Covering (Armstrong Cork Co.; Montgomery Ward's Cat. No. 72—4106R) 42c per sq. yd., plus transportation. (*See* No. 6.) Mottled tan and brown enameled floor covering with black, red, yellow, and blue geometric pattern. Some mold formation. **1**

Buy War Bonds

and Stamps

Armstrong's Quaker (Armstrong Cork Co.; Montgomery Ward's Cat. No. 72—4406R) 53c per sq. yd., plus transportation. (*See* No. 4.) Gray marbleized enameled floor covering with geometric red, gray, and black pattern. Some mold formation. **1**

Gold Seal Congoleum De Luxe, Pattern 854 (or 354; stencilling not clear) (Congoleum-Nairn, Inc.) 59c per sq. yd. (*See* No. 1.) Printed enameled floor covering, with cream and gray mottled background with red, maroon, green, black, and blue geometric pattern. Very little mold formation. **1**

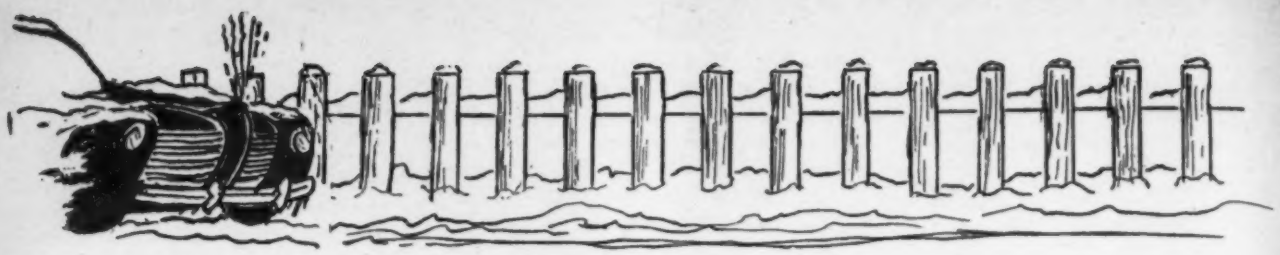
Wardoleum Printed Enamel Floor Covering (Montgomery Ward's Cat. No. 72—4026R) 33c per sq. yd., plus transportation. (*See* No. 2.) Enameled floor covering with cream background, black and gray mottling, and red, yellow, black, and green geometric pattern. Some mold formation. **1**

Wardoleum Printed Enameled Floor Covering (Montgomery Ward's Cat. No. 72—4426R) 41c per sq. yd., plus transportation. (*See* No. 3.) Cream marbleized enameled floor covering with geometric red and blue pattern. Considerable mold formation. **1**

* * *

Ward's Marbleized Linoleum (Montgomery Ward's Cat. No. 72—4173M) 90c per sq. yd., plus transportation. (*See* No. 12.) Blue marbleized linoleum. Appearance after wear test, very poor; considerable over-all dirtying effect. Resistance to wear, fair. Some mold formation. **2**

Armstrong Standard Gauge Embossed Linoleum, No. F-5641 (Armstrong Cork Co.) $1.65 per sq. yd. (*See* No. 7.) Inlaid, of an embossed type with "salt and pepper" background and yellow, blue, green, and red pattern. Appearance after wear test, unsatisfactory; considerable all-over dirtying effect, with greater wear apparent on raised parts. Resistance to wear, very good. This linoleum would probably be suitable for areas not subject to severe wear; would have received a higher rating but for the unusual degree to which it lost its good appearance with wear. Some mold. **3**



Anti-Freeze Solutions

THIS YEAR'S available supply of all types of anti-freeze for automobile use will be distributed under an allocation system by states, worked out by the WPB, assisted by an advisory committee of the anti-freeze industry. Present indications are that there will be a sufficient amount of anti-freeze of one type or another available to supply consumer requirements; it cannot, however, be assumed that all the common brands or types will be available in every locality.

Maximum prices for anti-freeze solutions are now fixed by the OPA as follows: Ethylene glycol (Type P), $2.65 per gallon; denatured alcohol (ethanol) (Type N), $1.40 per gallon; methanol (wood alcohol) (Type S), $1 per gallon.

The common types of anti-freeze are: (1) ethylene glycol; (2) denatured alcohol (ethanol); (3) glycerin (because of its use as an essential war material, it is doubtful that glycerin will be available for this purpose); (4) methanol (wood alcohol); (5) mixtures of methanol with isopropyl alcohol; (6) calcium chloride; (7) petroleum distillates. Ethylene glycol and ethanol are the most satisfactory types of anti-freeze.

Ethylene Glycol

Ethylene glycol is called a "permanent" anti-freeze because it does not evaporate and, therefore, does not require replacement, except for losses due to leaks, during the entire season. Water, of course, must be added to replace that lost by evaporation. Provided the ethylene glycol remains free from rust, it can be saved and reused for several seasons, if given suitable treatment to free it from acidity, and if the rust inhibitor is replaced.

Before reusing an anti-freeze solution of this type, it should be tested with blue litmus paper. If the paper turns red when immersed in the solution, a small amount (e.g., about one ounce) of washing soda (sodium carbonate) should be dissolved in the solution, an amount just sufficient to keep the blue litmus paper from turning red. A corrosion inhibitor should also be added; this consists of one ounce of sodium dichromate plus one-third ounce of sodium hydroxide (lye). (If a proprietary product is preferred, "*Eveready*" Formulae RG-2M [National Carbon Co.] or *Dupont Acid & Rust Inhibitor* may be used.)

Ethylene glycol has an advantage over the alcohols in that a higher thermostat setting can be used, which gives more efficient action of the engine and also favors effective heating of the car with the usual type of car heating equipment. (The proper thermostat setting will be 180°F.)

A disadvantage of the ethylene-glycol type of radiator liquid is in its ability to pass through and leak from extremely small crevices, and it may loosen scale or rust and leak from a system which appeared to be quite tight when it contained water only. This, however, is a minor problem and usually need not be considered with a radiator which is in reasonably good condition.

Those who used the permanent type of anti-freeze last year and plan to reuse it this year, must purchase the same brand for adding to bring it up to the required strength, for if this is not done, there is no convenient way for testing the mixture to determine its freezing point. However, if, for example, *Zerex* is added to used *Prestone*, or vice versa, to bring it up to the required strength, the user should probably assume as a safety margin that the actual protection afforded is at least 10° less than the glycol scale of the hydrometer indicates. (The discrepancy arises out of differences in the inhibitors used in the two products, which affect specific gravity, though volumes required for equal protection are the same for *Zerex* and *Prestone*.)

Glycol Anti-Freeze

A. Recommended

Atlas Perma-Guard ● *Eveready Prestone* ● *Firestone Frigitone* ● *Gulf* ● *Shellzone* ● *Stet* (B. F. Goodrich) ● *Zerex.*

Denatured Alcohol (Ethanol)

Alcohol of the type which used to be made from grain, and which the chemists distinguish as ethanol, is probably the most widely used of the anti-freeze solutions, but it has the disadvantage that it evaporates more freely than the water in which it is dissolved and, therefore, the freezing point tends to rise steadily with use. This type of anti-freeze, like methanol, next discussed, must thus be tested frequently during the winter season and a replacement mixture of alcohol and water added to bring it up to the required strength. Because it has a lower boiling point than ethylene glycol solution, it can be used only with engines having thermostats which open at 160°, and it is not suitable for use in high-altitude states where the boiling point of the alcohol-water mixture is reduced considerably due to the height above sea level. As it is probable that the largest proportion of anti-freeze this year will be of a denatured-alcohol type, a table is appended which is useful to determine the strength of solution required to replace losses from alcohol mixtures by evaporation. Percentages are by volume. The usual practice of adding a quantity of undiluted alcohol anti-freeze to the radiator to replace losses should be avoided, as commonly, depending upon the climate of the region, this may lower the boiling point of the mixture below what is needed for the protection against freezing, and this, of course, results in an increased rate of loss of alcohol from the alcohol-water mixture. Some brands of alcohol (ethanol and methanol) contain so-called "evaporation retarders." These are usually of the petroleum oil type; they function by forming a thin film of oil on the surface of the radiator liquid;. this film reduces the rate of evaporation. In practice, however, some of the oil film is lost down the overflow pipe, particularly if the radiator is overfilled, as often happens. Some of the oil may also be absorbed by the rubber hose connections, but as the quantity of oil present is small, the deleterious effect on the hose will probably not be significant. (A very small amount of wetting agent [surface-tension-reducer] is likely to be present in the commercial products, to assure even spreading of the oil over the surface of the radiator liquid.)

Original Radiator Solution			*Replacement Solution*	
Freezing Point	Denat. Alcohol	Water	Denat. Alcohol	Water
27°F	10%	90%	60%	40%
19°F	20%	80%	75%	25%
10°F	30%	70%	82%	18%
—2°F	40%	60%	87%	13%
—18°F	50%	50%	90%	10%

Example: With a 20% denatured alcohol solution, which protects to 19°F, 3 times as much alcohol as water must be added to bring the radiator solution back to normal level and strength (75% + 25% = 3).

Denatured-Alcohol Anti-Freeze

A. Recommended

Five Star (Du Pont)

Super Pyro (U. S. Industrial Chemical, Inc., N.Y.C.)

Thermo Royal (Publicker, Philadelphia)

War Emergency Zerone (Du Pont)

All brands which are clearly stated on the can (or on the drum if the product is bought in bulk) to be ethanol or *denatured alcohol* or which are asserted not to give off poisonous fumes.

Methanol

Methanol is definitely not recommended as an anti-freeze because of the extremely poisonous nature of its fumes. Denatured alcohol is, of course, poisonous, but its fumes are perhaps only slightly so as compared with methanol. To give the same protection, 20 to 25% less volume of methanol is required than if ethylene glycol or denatured alcohol was used, and on that account it is the most effective of the non-permanent anti-freezes. Disregarding the question of toxicity, methanol is about 30% cheaper, volume for volume, than denatured alcohol, about 45% cheaper for a given protection than denatured alcohol, and about 70% cheaper than ethylene glycol for use in a given radiator to give protection to the same temperature. CR strongly advises against the use of methanol unless it is necessary to purchase it because anti-freeze of the proper sort is not available. If used, wood alcohol must be handled with extreme caution. Methanol, properly labeled, carries a skull and crossbones warning and is plainly marked "Poisonous"; methanol is usually dyed with methyl-violet to distinguish it from other types of anti-freeze and to give warning of its extremely poisonous nature.

Methanol ("Wood Alcohol") Anti-Freeze

C. Not Recommended

Canada 200; Genuine Ford; Genuine General Motors; Koldprof; Mobile; Nor'way; Winter Flo; Trek; Zerone.

All brands consisting of or containing methanol.

Calcium Chloride Anti-Freeze Solutions

Calcium chloride solutions were widely sold at one time, many years ago, and their production and sale were revived last year. However, adverse publicity, action by the Federal Trade Commission, and the eventual banning of their manufacture because of the damage they caused to automobiles by their corrosive action will presumably mean that no new ones will be offered this year. Quite likely, however, there will be a goodly number of dealers, who either do not realize the extreme undesirability of making any use of this type of solution as an anti-freeze or do not care greatly, who will try to unload left-over stocks of this product, particularly in communities where anti-freezes of the normal types are abnormally difficult to obtain. *Under no circumstances should calcium chloride or similar salt solutions be used.* ¶If there is any doubt about the type of anti-freeze being offered, its identity should be established before it is placed in the cooling system. Fortunately, this can easily be done with little trouble. If a spoonful evaporated over heat in a small tin or lid leaves a white, gray-white or dirty-brown crystalline deposit, it is undoubtedly calcium chloride. Its weight is also a good indication of its type. Calcium chloride solutions weigh 10½ to 11½ lb. per gallon compared to 9½ to 10 lb. for ethylene glycol; 7 to 7½ lb. for denatured alcohol; and 6¼ to 7 lb. for petroleum distillate.

Calcium Chloride (Brine) Anti-Freeze

C. Not Recommended

Alcotex; All-Winter; Antarctic; Anti-Frost; Bird Antarctic; Bond (Top Line); Ever-Flo; Flexo; Fre-Zex; Frezpruf; Frigid; Frozone; Gold Seal; Lo-Temp; Lo-Zone; Permazone; Polar Bear; Security; 60 Below; Vonzone; Wonder-Solv.

Petroleum Distillates as Anti-Freeze Material

This type of radiator liquid is essentially deodorized kerosene, and will probably be sold again this year because the WPB, after prohibiting its manufacture, reversed itself and allowed certain brands to be made. Because the distillates do not mix with water, they are required to be used undiluted, and the quantity bought must be equal to the full volume capacity of the radiator. The poor heat transfer properties of the kerosene-type radiator liquid can cause serious engine damage due to overheating; their solvent action on rubber, too, makes them unsuitable for use in automobile cooling systems.

Petroleum (Kerosene-Like) Anti-Freeze

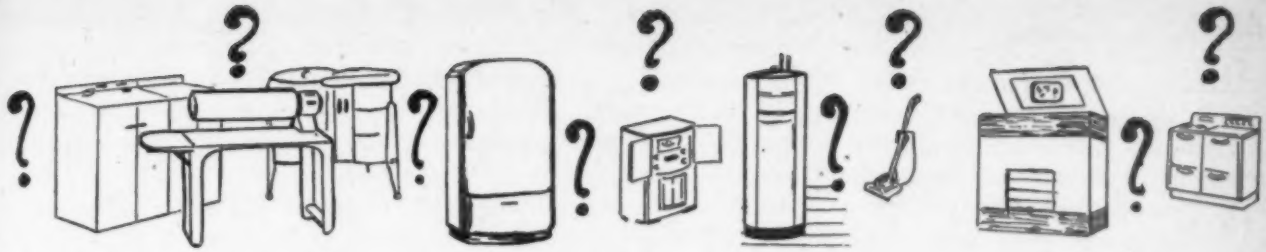
C. Not Recommended

Chem-A-Cool; Freeze-Proof; Neva-Freeze; Never-Freeze; Nev-R-Freez; No Boil; No Freez; Safas.

Testing Anti-Freeze Solutions

As the specific gravity of an anti-freeze solution varies with its temperature, the float of anti-freeze testers used for testing radiator liquids of the ethylene glycol and alcohol types is usually scaled for use at 60°F or 160°F; some are graduated for use at either temperature. Any such floats will, of course, give incorrect readings whenever used to measure the density of a liquid whose temperature is far from the temperature of calibration of the instrument. (The error may be as large as from 20° to 40°F.) Unfortunately, anti-freeze testers as sold in auto supply stores are pretty poor devices, usually inaccurate even when used at the temperatures at which they were supposedly calibrated; often extremely difficult to read, and generally unsatisfactory. In a test of several brands made by CR, only one was found to be reasonably satisfactory—*Montgomery Ward's De Luxe Tester*, Cat. No. 61–3864, at $1.19 plus postage—and this, even though equipped with a built-in thermometer and temperature correction chart, was found to be accurate only in testing solutions at or near 60°F.

Most service stations are equipped with higher-grade (and more expensive) anti-freeze testers than are usually available or bought by the average motorist, and while this does not mean that service station anti-freeze testers may be relied upon as accurate or even that the attendant will surely know how to use and read them accurately, the average consumer will perhaps be well advised to avail himself of the garage's or filling station's services rather than to attempt himself to check the condition of his anti-freeze.



The Outlook for Household Electrical Appliances

A QUESTION of great interest to many consumers is to what extent civilian household electrical appliances will be put into production in the near future and just about when some of the more important appliances will become available. So far, no definite answers can be given. There has been a long series of delays in official circles in deciding on reconversion policies and in conducting endless surveys to decide what is to be made and who is to make it, out of what materials. Other causes of delay are involved in problems of availability of labor in certain localities, in the fact that some manufacturers in areas where labor is available have their plant capacity tied up in war contracts, and, to a smaller extent, in non-availability or scarcity of some materials.

The War Production Board has allocated a reserve of a considerable tonnage of steel and some other materials for the manufacture in the last three months of 1944 of seventeen groups of critically needed civilian articles, many of which are electrical appliances. These include mechanical refrigerators, washing machines, vacuum cleaners, electric ranges, electric sewing machines, domestic electric water heaters, batteries for farm radios, and alarm clocks. Manufacture of 30,000 domestic oil burners was also authorized.

There is considerable difference of opinion among manufacturers as to how soon volume production on household appliances can be begun. Some of the smaller manufacturers expect, or at least hope, to get into production within 60 to 90 days after permission is granted. On the other hand, a vice-president of Westinghouse recently predicted that production of electrical appliances will not start until at least six months after the defeat of Germany.

The information that follows reflects the situation as it stood during September and early October.

Electric Refrigerators

The principal difficulty in the way of production of electric refrigerators is said to be the unavailability of small motors, which are needed in such enormous numbers in implements of war and in plants producing war equipment that labor, and at an earlier time, copper for manufacturing them for consumers' use could not be spared. There are signs, however, that electric motors will be available in the reasonably near future, and when they are, there will no doubt be facilities for manufacturing the other parts of refrigerators. (Sizable cutbacks in airplane manufacturing are expected to release considerable factory capacity for production of the various small motors needed to power refrigerators and many other common electrical appliances.)

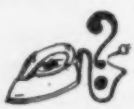
One improvement that may be expected in post-war refrigerators is the provision of good-sized compartments permitting the storage of a reasonably large supply of frozen foods. Other innovations will be dual-purpose machines combining the regulation household refrigerator with a quick-freeze and low-temperature-storage unit. There are drawbacks in such an appliance, however, since the combined equipment, if it is to be practically useful, will necessarily be large, and few modern kitchens would provide sufficient space for it. The market, therefore, may be limited to homes with rather unusually large kitchen space.

Washing Machines, Ironers, Dishwashers

Among the appliances most needed are washing machines. The industry believes that washing machines and ironers may possibly get into production in January 1945, with the smaller firms starting first, as soon as their plants can be cleared of war orders. It is expected that washers will be available within about three months after the defeat of Germany. There is no doubt that automatic washing machines on the principle of *Bendix* and Westinghouse *Laundromat* will be strongly featured by several manufacturers; consumers are looking forward eagerly to the availability of this very convenient and time-saving type of laundry equipment, which in the past has been priced at $75 or so above the regular machines of the kind having the safe (centrifugal type) drier.

One company (Electric Household Utilities Corp., manufacturers of *Thor* appliances) has a new automatic washing machine in development and also plans a low-priced electric automatic dishwasher which, according to a trade press notice, will eliminate the need for wiping dishes.

Electric Irons



The program for manufacturing electric irons has been one which has perhaps received most discussion because of the very serious need for these irons by people who because of travel and other conditions require an exceptional amount of clothing maintenance and because overloading of laundry services has made commercial laundering a headache for many householders and travelers. The WPB has granted allotments of materials to about twenty manufacturers to permit them to make nearly two million automatic and non-automatic electric irons. There are to be models from 660 to 1000 watts (1000 watts are much to be preferred), and the price range is to be from $5.30 to $11.70, including federal excise tax. Montgomery Ward were to be permitted to manufacture 20,000 800-watt automatic irons to retail at $5.75 plus tax; and Sears Roebuck were allowed 93,500 1000-watt automatic irons to retail at $6.95 plus tax. Most of the irons will sell at prices between $5.70 and $8.75, including tax.

Two or three steam-electric irons will be available. One is a 600-watt ac-dc iron at $13.95.

Another iron being talked about is a "cordless" iron to be heated on a thermostatically controlled hot plate. This will be offered by the manufacturers of the *Eureka* vacuum cleaner.

Vacuum Cleaners

At least one vacuum cleaner manufacturer (Electrolux) has been granted permission to reconvert fully, and should be able to put cleaners into the hands of dealers in a reasonably short time. Others will presumably be able to follow shortly. One cleaner manufacturer has announced his intention to bring out something entirely new and different in the way of home-cleaning equipment.

Electric Ranges

The WPB has assigned production quotas for about 21,000 ranges to be produced the last three months of 1944. Most of these ranges will be three-burner models. Military needs and the requirements of war housing projects will take by far the greater part of those produced, so that the number available for consumers in retail stores will be very small, too small perhaps to be of any practical importance to consumers generally. All the four-burner types will be sold for "essential civilian replacement purposes," but it is not expected that they will be available to consumers until 1945.

Electric Water Heaters

Some heaters are now being produced, and one manufacturer (Rheem Manufacturing Co.) is advertising that they can supply them now in moderate numbers.

Radio Sets

It is expected that there will be some new radios available within two months after reconversion of factories is permitted, and that all companies in the industry will be in production in about four months. The difficulties confronting radio manufacturers in converting to peacetime production are considerably less severe than the manufacturers of other types of electrical appliances must deal with, for wartime production in the radio field has been of a character not too remote from regular peacetime output, so far as manufacturing methods, skills, and facilities are concerned. There are some expectations that post-war radios will embody more actual improvements than other electrical appliances, but there is reason to suppose that these will in most cases not be improvements in performance so much as in design and in methods, which will facilitate manufacture and reduce production

costs and, it may be hoped, help somewhat with the problem of repairs and replacements.

The proportion of FM (frequency modulation) sets is expected to increase sharply as compared with the pre-war period, for a large number of people have come to appreciate the extra fidelity that is possible with FM, and also would like to avoid some of the difficulties that have been frequent and troublesome in recent years with the standard radio sets, due to fading, distortion, and interference which come from a variety of causes, some man-made and some beyond human control. One big radio manufacturer expects to include FM reception in nearly all of its sets priced above $60.

Two important factors should combine to effect a rapid spread of FM broadcasting: First, that the stations will be of low power and small operating radius, and many small stations, perhaps something under 1000, will be required to serve the country effectively; a second factor is that FM transmitters can be very cheaply built (as compared with the now standard AM or amplitude-modulation broadcasting). With the receiver, however, the situation is reversed —if the FM receiver is of really good quality, as it surely ought to be.

Television

Television sets will be marketed, but consumers tend to exaggerate by a considerable degree what is to be expected in this field. We are still a long way from strictly successful and satisfactory television. Any consumer will do well to watch progress for some time before preparing to buy a set, even though prices may seem rather attractive, perhaps as low as $150 to $200, shortly after new production is begun.

Important factors in television are: First, that the transmission technique is not yet fully standardized, so that sets may become obsolete fairly soon after purchase; second, that television receivers involve specially difficult problems in servicing, and it may be expected that they will require a considerable *amount* of servicing of a kind which is bound to be difficult to get and will likely prove pretty expensive.

New Types of Appliances

All consumers have read many glowing accounts of post-war gadgetry and super-appliances that were to be available immediately upon the beginning of new production. Much of this has been very ill-advised publicity, helpful neither to the consumer nor to industry; such accounts are never to be taken seriously. There *will* be improved models, but the marvels that the imaginative advertising and publicity men and professional writers for popular magazines have been talking about are a long way off; many indeed may never arrive. There is hardly anything in the way of an electrical appliance with respect to which the consumer need expect to find fundamental or revolutionary changes.

As one prominent electrical manufacturer comments regarding some of the ads for "miracle refrigerators": "All this sounds like wonderful dreams and some of it is possible in the future when engineers, designers, and developers have time to work on civilian merchandise. But you won't have it on your sales floor for quite a while. Here again, the first refrigerators off the lines will be very close cousins to the last ones."

The changes actually made will consist mostly of modest improvements, plus, in some cases, considerably widened production and sale of an already known type of device of superior design substituting for some models of lower efficiency or convenience.

Prices

The consensus is that prices of appliances are likely to be somewhat higher than before the war. Mr. J. H. Ashbaugh, vice-president of Westinghouse, stated that a test analysis of one of their appliances had shown that, after elimination of non-recurrent charges, the cost of manufacture would be about 21% above the pre-war cost. He expressed the hope, however, that improved methods of manufacture might reduce the costs, and stated as his belief that "it is essential to this industry that we prevent a substantial rise in prices."

Many manufacturers in other lines of business, and manufacturers who did special jobs of electrical manufacture connected with war production, are planning to enter the electrical appliance industry. If competition is permitted to exercise its natural regulating effect, this additional competition will have a tendency to restrain the expected rise in prices. While there will be a very large demand for electrical appliances immediately following the end of the war in Europe, there will be tendencies to step up promotion of such equipment and so increase consumer demand. Since electric power companies will be faced with a severe decrease in use of cur-

rent by large industrial consumers as war production ends, they will no doubt put on extensive advertising campaigns to extend the use of high-wattage appliances such as ranges and electric water heaters. It is expected that efficiency of both of these appliances may be improved and prices of at least some makes lowered.

There have been various estimates of the price increases which radio sets will carry after the war. For the new radios, the expectations of price increases vary between 15 and 50% above the nearest equivalent pre-war sets.

The General Situation

With respect to all of the above it must be remembered that a promise of release of materials and plant capacity by governmental agencies is a long way from fulfillment in the way of products on the dealer's counter, ready for consumers' use. The WPB itself has conceded that "most of the programs are still in the paper stage and, even if carried out in full, would not mean that the products would be available on a wide enough scale to satisfy even the essential civilian demand."

Trade papers have referred to the constant difficulties in getting through the necessary red-tape. One refers to the "present over-sized bureaucracy" and notes that "high policy makers. . . can announce a lovely plan. Then after they have departed for China or to address the Amalgamated Shoehorn Manufacturers convention in Sioux City, various underlings quietly make the 'policy' inoperative." Delivery of certain materials absolutely necessary in production, it turns out, may take 26 weeks to 36 months. One plant was given a contract which was cancelled because the war product that was to be made was never used, and since February 1944, it has been trying to unwind the red-tape necessary to get the government-owned machinery out of its buildings so that it could go on with the manufacture of refrigerators.

In another case, where parts were ordered from a number of sub-manufacturers, as WPB officials had asked, to permit rapid assembly when the go-ahead signal is given later, the parts makers were not able in their turn to get permission from the WPB to go ahead and fill the orders.

In spite of all these signs of general boggling and administrative confusion and incompetence, it is fairly clear that objections to the government's failure to permit manufacturers to make necessary articles—objections by consumers, taxpayers, and all those who must earn their living by work in business and industry—are becoming too impressive to allow officialdom to dally with the subject much longer; the country at large will soon demand an accounting from persons in official positions who are found to be unwilling to allow industry to go to work on the production of necessary goods now scarce or unobtainable.

Heated arguments are being carried on as to which of the items on a dozen "want lists" are most urgently needed. Various federal agencies concerned with permitting production of consumer goods have their own different ideas of what should be made first and who should make it. There seems now as formerly to be no one at the top who has either the necessary information or administrative ability to pull all of these wrangling agencies firmly into line and make one decision of policy that will set them to marching in one direction without stops for further "surveys," delays, or argument. It seems probable that shortly anti-conversion factions in the various bureaus will be "liquidated" or "sent into exile," along with other executives who have persistently been on the wrong side of touchy questions, where the welfare and livelihood of millions depended upon the act or persistent failure to act of a single wrong-headed or badly-advised administrator.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACTS OF CONGRESS OF AUGUST 24, 1912, AND MARCH 3, 1933, of Consumers' Research Bulletin published monthly at Washington, New Jersey, for September 1943-September 1944—State of New Jersey, County of Warren ss. Before me, a Notary Public in and for the State and county aforesaid, personally appeared F. J. Schlink, who, having been duly sworn according to law, deposes and says that he is the editor of the Consumers' Research Bulletin and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Act of March 3, 1933, embodied in section 537, Postal Laws and Regulations, printed on the reverse of this form, to wit: 1. That the names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, Consumers' Research, Inc., Washington, New Jersey; Editor, F. J. Schlink, Washington, New Jersey. 2. That the owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding one per cent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a firm, company, or other unincorporated concern, its name and address, as well as those of each individual member, must be given.) Consumers' Research, Inc., a non-profit corporation, not a business enterprise, not operated for profit, Washington, New Jersey. Stock—none. 3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) None. 4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him. F. J. Schlink. Sworn to and subscribed before me this 20th day of September 1944. Reuben D. Stevens. (My commission expires June 23, 1948.)

Moccasins or Loafers

for Women's Everyday Comfort

RATIONING of gasoline and tires, and crowded transportation facilities have brought about a great increase in walking during the war years. Since it is difficult to do a stretch of ten blocks or so wearing high-heeled shoes and carrying a heavy bag of groceries, or to run an elevator eight hours a day in opera pumps, low-heeled shoes have found widespread favor.

The moccasin or so-called "loafer" has achieved considerable popularity, not only because of its low heel but because it is light, flexible, and easy to slip into. The problem, too, of suitable footwear for the women who flocked to work in war factories has become the subject of many earnest discussions by experts who deplored the general tendency to wear to work dress shoes that had grown too shabby for street wear. Open-toed shoes are also the bane of war plant safety engineers, according to a survey which reported that the safety expert at one New England armory favored a low-heeled moccasin-type shoe of sturdy leather as meeting safety requirements and being satisfactory in appearance to most women.

It should be kept in mind, however, that many of the moccasins and loafers have been made with the black rubber-composition soles that tend to mark floors so badly that it is difficult to eradicate the path that their wearers have trod. For this reason many women dislike them for house wear. Perhaps, in such cases, the old Holland custom of leaving shoes outside the door should be adopted. There is some hope in sight that wartime restrictions will be relaxed sufficiently to permit manufacture of synthetic soles (other than plastic) in colors which will not have this fault. It has been noted that some shoes of the loafer-type are beginning to appear on the market with leather soles. Unfortunately, in the current test made for CR on ten brands of moccasins or loafers, test results made it evident that none of the leather soles came to near equalling the black composition soles in abrasion resistance. At present, it is a choice to some extent between shoe durability and the appearance of the hardwood or linoleum-covered floors of one's home.

The purchase of a pair of moccasins should be made as carefully as that of any other footwear. There is something of a tendency to regard them as house slippers, which are usually so soft that a good fit may not be considered important. Possibly such shopping habits account for the comment of one clothing trade journal that flat moccasins are "swell for relaxing, and intermittent wear, but constant wear will raise havoc with young arches, and flat feet will be the result." Proper fit at the instep of a shoe is necessary to prevent this difficulty. If the shoe does not fit snugly at the instep, it will not support the foot properly.

Other points to watch are the heel and the toe. The toe should follow a straight line as closely as possible at the inner edge and the outer edge should be rounded. Also the toe, as pointed out in previous articles, should be roomy, and high enough so that there is no pressure. The heel should be broad and low and firmly attached. The sole should be thick and sturdy enough to take the shock of walking on hard or uneven surfaces. The shank should be strong and secure. Flexible shanks are satisfactory only for lightweight people with healthy feet and good arches.

CR found considerable difficulty in obtaining 10 widely-distributed and nationally-ad-

MOCCASIN TYPE: *Prontos, Sportster, Wilbar's, Campus Mocs.*

vertised brands of the loafer-type shoe for test. Stocks were low and the range of sizes carried was small. The attempt was made to purchase all the shoes in size 7B to fit one of the members of CR's staff; to do this required visits to many stores, in several cities. Moccasins or loafers of some type can be found in nearly every good shoe store, but often they carry the store's own brand name or are unidentified as to maker. There is some indication, however, that as this BULLETIN goes to press, stocks are beginning to arrive in many stores, although they are still far from being abundant.

The shoes were carefully examined for workmanship and finish, for the nature of the materials used, the type and quality of leather in the uppers, and for details of construction. In addition the upper leather was given a standard tensile strength test and the soles were subjected to an abrasion test to determine their wearing qualities.

One of the shoes tested had a sole made of plastic. It should be noted that there must be a considerable element of uncertainty in respect to plastic soles until there has been further experience with this type.

Shoemakers report that such soles have quite commonly given serious trouble with cracking and separation from the under-sole, and wearers have complained of their extreme slipperiness under certain conditions. Such soles may have good qualities as to abrasion resistance and still fail by cracking, or be unsatisfactory in other ways.

Whether troubles or defects develop with plastic or composition soles may depend upon various factors as nature of use, weight of the wearer, surfaces walked on, exposure to dampness and wet ground, etc. At present, therefore, shoes having plastic or other composition soles cannot be judged entirely on durability as shown by the laboratory wear test. There will apparently be considerable risk to the purchaser that the soles may perform poorly. This cannot be eliminated until users and manufacturers have had more experience with the various substitute materials; compositions of these are determined in part by wartime shortages and regulations.

Ratings are cr44.

B. Intermediate

Prontos (Bows Moccasin Shoe Co., Avon, Mass.) $5.50. Dark brown moccasin. Style R 6220. Sole, rubber composition, which marked floors badly. There was no lining, no counter, and no shank. Retan leather uppers, above average in tensile strength. Resistance of sole to abrasion, good. Shoe would be improved if the sock-lining of coated pressed fiber, which extended only to the shank, ran the full length of the shoe. **1**

Spalding Sportabout (A. G. Spalding & Bros., 24 Sixth Ave., Brooklyn 17, N.Y.) $5.50. Light brown. Loafer style. Built-up leather heel. Leather sole. Leather quarter lining, wrinkled on right side. Shank, fiberboard reinforced with metal. Vegetable-tanned upper leather, of average strength. Resistance of leather sole to abrasion, satisfactory for leather, but the sole had only a fraction of the wear-resistance of the *Sportster* composition sole. Leather does have an important advantage in that it does not mark floors. Sock lining of leather extended only to shank (*see* previous comment). **1**

LOAFER TYPE (MODIFIED MOCCASIN STYLE) *Spalding Sportabout, Lady Nettleton, Daytimers, Modern Age.*

Sportster (A. Sandler Co., Essex at South St., Boston 11) $5.95. Dark brown. Marked "Sportster Genuine Hand-Sewn Moccasin." Built-up leather heel. Composition sole, which marked floors. There was no lining, no counter, and no shank. Mid-sole, fiberboard (fair). Chrome-tanned uppers, above average in strength. Resistance of sole to abrasion, good. Shoe would be improved if the leather sock-lining were extended to the full length of the shoe instead of to the shank only. **1**

LOAFER TYPE: *Shanks' Mare, Styl-EEZ.*

Wilbar's Moccasin (Wilbar's, 166 Tremont St., Boston 12; also sold in Emily Shops, New York City, and college shops in Wellesley, Northampton, Poughkeepsie) $5.50. Dark brown. Leather heel with pressed fiber foundation fastened insecurely, with only five nails. Black composition sole, marked floor badly. Had no lining, no counter, and no shank. Leather sock-lining extended only to shank (*see* previous comment). Chrome-tanned uppers, of above-average tensile strength. Resistance of sole to abrasion, excellent. **1**

Lady Nettleton (A. E. Nettleton Co., State and Willow Sts., Syracuse) $9.95. Brown. "The Trotter." Goodyear welt sole. Built-up leather heel. Leather sole. Counter, fiberboard, not strong or resilient. Shank, fiberboard reinforced with metal. Sock lining of leather extended only to shank (*see* previous

comment). Retan leather uppers, of above-average tensile strength. Abrasion resistance of leather sole considered satisfactory but had only a fraction of the wear-resistance of the *Sportster* composition sole. **3**

Shanks' Mare (I. Miller & Sons, Inc., 43-10 23 St., Long Island City 1, N.Y.) $12.95. Brown pebble-grained loafer. Cement construction. Built-up leather heel. Leather sole. Counter, fiberboard, soft, not resilient. No shank. Sock lining of coated leather extended full length of insole (an excellent feature). Insole leather, two pieces stitched together, not high quality. Chrome-tanned upper leather, of above-average tensile strength. Resistance of leather sole to abrasion, fair, only a fraction of the resistance of the *Sportster* composition sole. **3**

* * *

The following was somewhat lower in overall quality than the brands immediately preceding. It was not, however, considered so poor as to merit a *C* rating, but rather a low *B*.

Daytimers by Gale (Daytimer Shoe Co., North Adams, Mass.) $5. Army russet. "Totem" (loafer style). Goodyear welt sole. Leather heel with pressed fiber foundation. Sock lining of coated paper extended only to shank (*see* previous comment). Plastic sole, labeled "Rugger," did not mark floors. Counter, fiberboard, not strong or resilient. Shank, wood. Mid-sole, fiberboard (poor). Insole, thin leather cemented to fiberboard. Retan leather uppers, of fair tensile strength. Resistance of sole to abrasion, excellent, best of all tested. **1**

C. Not Recommended

Campus Mocs (The Golden Rule, St. Paul) $5. Dark brown. Marked "Genuine hand-sewn moccasins by Tru stitch." Leather heel with pressed-fiber foundation. Black composition sole, marked floors badly. Mid-sole, fiberboard (fair). Retan leather uppers, of below-average tensile strength. **1**

Modern Age Playboy (Curtis, Stephens, Embry Co., Reading, Pa.) $5. Brown loafer. Goodyear welt sole. Composition heel, marked floors badly. Composition sole, labeled "Bearfoot," marked floors badly. No lining over counter. Counter, fiberboard, soft, not resilient. Insole, leather. Shank, wood. Retan leather uppers, of below-average tensile strength. **1**

Styl-EEZ Patrician (The Selby Shoe Co., Portsmouth, Ohio) $7.75. Brown suede loafer. Goodyear welt sole. Leather heel with pressed-fiber foundation. Leather sock lining extended only to the shank. Insole, leather. Shank, metal. Counter, fiberboard, resilient. Retan leather uppers, of below-average tensile strength, although the fact that it is suede should be taken into account. "Flare-Fit Feature of Styl-EEZ" considered objectionable by competent orthopedist since it serves no effective purpose unless it is specifically needed for a particular foot condition. **2**

Pearls Sometimes Injured by Wearing

PEARLS are the softest of all gems, being composed chiefly of a form of calcium carbonate known as aragonite. (Chemically, calcium carbonate is the same material as chalk or limestone.) About 92% of the pearl is calcium carbonate, about 6% is organic matter, the rest mostly water.

The Journal of the American Medical Association reports some correspondence regarding the question of harm to pearls done by perspiration. In the course of the discussion, the fact was developed that, contrary to the belief held by some who have investigated the subject, pearls can be injured by contact with perspiration, and even with distilled water.

Through absorption of carbon dioxide from the air, distilled water becomes mildly acidic so that its pH may at times be as low as 5. (A pH of 7 corresponds to exact neutrality or freedom from either acid or alkaline reaction which characterizes distilled water that has not been exposed to contamination by gases from the air.) Under these conditions, some of the calcium carbonate in the pearl dissolves, and the result is that the gem becomes white and loses its original luster and quality.

Studies have been made of the chemical characteristics of human perspiration, which has been found to have a pH as low as 5 to 5.8, corresponding to an appreciable acidity, comparable with that of the contaminated distilled water mentioned as capable of modifying pearl color and texture. It may be assumed, therefore, that skin secretions can have a deteriorating effect on pearls.

In addition to damage by water and perspiration, pearls are also subject to injury by exudations from injuries or diseases of the skin, by sulfurous smoke, or by bright sunlight.

Wood as Fuel

THE threatened shortage of coal this winter may result in some regions in fairly wide use of wood in many homes as an auxiliary fuel to stretch the available coal supply. Many who are unaccustomed to burning wood may be under the impression that all that is necessary is to call up the local wood-yard and order a cord or a load of firewood cut to a certain size to fit their fireplace, stove, or furnace.

The problem is really not so simple as that. The primary purpose should be to obtain the most heat per dollar from the fuel burned, and this will depend upon the kind of wood and its condition. Green or "wet" wood contains up to 60 percent of moisture; when burned such wood compared with air-dry wood gives off a greatly reduced amount of heat, as a large part of the heat must be utilized in driving off and turning into steam the water that is present in the wood and permeates all of its fibers.

To make good fuel many species of wood require at least three months of drying after cutting, in a place where there is a good circulation of air. There are, however, woods such as ash (except black ash), beech, hickory, locust, red pine, and tamarack which improve very little by drying and can be burned soon after cutting.

Woods which crackle and spit when burned, such as apple, pine, chestnut and hemlock, are undesirable for fireplace use; such woods constitute a real fire hazard if burned without a fire screen that covers the whole fireplace opening.

Soft woods which contain a considerable proportion of pitch should not be used in stoves or furnaces as they produce large quantities of soot, which tend to clog stove or furnace pipes. Stove pipes are also corroded by the condensed acetic acid distilled from green wood, if such wood is burned in a slow fire. It is best that the fire should be a lively one—having due regard to safety against fire due to overheating of stove or flue—when green wood must be burned.

The heating value of wood is proportional to its weight per cu. ft. and *equal weights* of different types of wood have about the same heating value. (Exceptions to this are the southern pines and other woods having a high resin content which give off slightly more heat than their weights would indicate.) Two pounds of wood dried to a 12% moisture content are approximately equal to one pound of coal, and a cord[1] of wood is equal to from ½ to 1 ton (1000 to 2000 lb.) of coal depending upon the type of wood.

The Forest Products Laboratory has found that a cord of hickory, oak, beech, birch, hard maple, ash, elm, locust, longleaf pine, or cherry properly dried for 9 to 12 months will produce about the same amount of heat as a short ton (2000 lb.) of hard coal. One and one-half cords of shortleaf pine, western hemlock, red gum, Douglas fir, sycamore, or soft maple is equivalent to about 1 ton of hard coal. Two cords of cedar, redwood, poplar, cottonwood, catalpa, cypress, basswood, spruce, or white pine have about the same heating value as a ton of coal.

The table on page 21 gives the approximate weight per cord (80 cu. ft. of actual [net] wood volume dried to 12% moisture content) and the approximate percentage of heat value per cord in comparison with one short ton (2000 lb.) of anthracite coal. The latter, with the exception of certain woods for which specific data were given in authoritative sources, is calculated on the basis that 4080 lb. of any type of wood give the same heating value as 1 ton of coal, approximately.

Burning Wood in a Fireplace

While a fireplace is useful in saving fuel in the early fall and spring by eliminating the need to operate the heating system, it is an extremely inefficient means of heating for it will require *ten times as much wood as a good stove does*, to heat a room to a given temperature. For best results in using a fireplace, the ashes should be maintained at about the level of the andiron bars; a good bed of glowing ashes not only gives off a certain amount of heat, but also helps to ignite the added fresh fuel. An open fire of this type

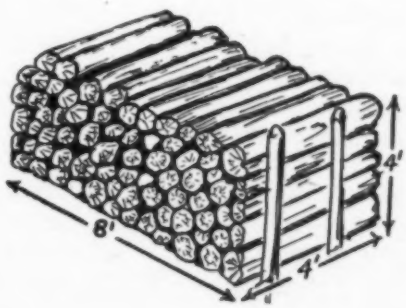
[1] A standard cord is a pile of wood 4 ft. high, 4 ft. wide and 8 ft. long, containing 128 cu. ft. of stacked volume or 75 to 90 cu. ft. of solid wood; the figure 80 cu. ft. is commonly used.

Wood	Wt. per cord	% Heat Value	Wood	Wt. per cord	% Heat Value	Wood	Wt. per cord	% Heat Value
Alder	2240	55	Fir, Douglas Mountain	2400	59	Pine, Lodgepole	2320	57
Ash	3440	91	Fir, Douglas Coast	2720	67	Pine, Ponderosa	3040	74
Aspen	2160	57	Gum	2720	67	Pine Longleaf	3280	80
Basswood	2080	51	Hemlock, Western	2240	55	Pine Shortleaf	3040	74
Beech	3760	99	Hickory, Shagbark	4240	100-112	Pine, White, Eastern	2080	60
Birch, Yellow	3680	97	Ironwoods	6400	156	Pinyon	2960	72
Cedar, Red East	2640	65	Juniper	2880	70	Poplar, Yellow	2240	55
Cedar, Red West	1840	45	Larch	2880	70	Redwood	2400	59
Chestnut	2400	59	Locust, Black	3920	96	Spruce	2160	53
Cottonwood	2320	57	Maple, Hard (Sugar)	3680	97	Sycamore	2800	68
Cypress	2560	62	Maple, Soft (Red)	3200	85	Tamarack	2960	72
Elm, American	2960	78	Mulberry	3680	90	Walnut, Black	3120	76
Elm, Rock	3520	86	Oak, White	3920	104	Willow	2480	61
			Oak, Red	3680	97			

can be checked when necessary by lightly covering the logs with ashes. *When the fireplace is not in use and the central heating system or stoves are operating, the fireplace damper should be closed or a tightly fitting cover placed over the front of the fireplace.* If this is not done the fuel consumption of the main heating plant may be greater, because of the loss up the chimney of large amounts of heated air that are in the room and enters it from other rooms.

Burning Wood in Furnaces and Stoves

To provide the same amount of heat, wood requires about 2/3 more burning space and 1/3 more grate surface than coal. Thus a furnace designed for coal will not work at its proper efficiency when wood is used. The best method of utilizing wood in a furnace is to burn it in combination with coal. The wood should be cut to lengths as long as practicable, but the pieces must not be so long that they do not lie flat on the grates. The Department of Agriculture recommends placing a layer of wood in good-sized pieces in the firebox and covering with a layer of coal, filling in most of the crevices between the wood, being careful to leave an open flame burning in at least one place. It is estimated that wood can be burned to replace 25 to 30% of the coal normally used, by this method of firing, but refueling will be required slightly more frequently. If the



situation requires that wood be burned alone in the furnace, it is necessary to reduce the amount of air passing through the grates either by keeping a bed of ashes on them or by covering about 2/3 of the area of the grate with a piece of sheet iron in which a few small holes have been punched. About 4/5 of the air required for combustion should be admitted *around* and *above* the fire through the slots of the firing door; the chimney draft is cut down by use of the check damper in the smoke pipe. When necessary, furnaces that have been converted to burn oil can readily be changed to burn wood. The burner mechanism is removed and the floor insulated with firebrick. The fire is then built on top of the firebrick.

Wood is not a satisfactory fuel as a rule in a *hot-water* heating system, as the relatively low temperatures of the furnace surfaces are likely to result in large amounts of tarry matter or creosote being deposited.

Wood stoves which are equipped with thermostats and operate for long periods without refueling can be obtained from the following manufacturers: Ashley Automatic Wood Stove Co., Columbia, S.C., $34.95 to $49.95 prepaid; Riteway Products Co., Harrisonburg, Va., $47.50 and $79.50 f.o.b. Ration certificates are not now required for the purchase of these stoves.

* * *

Fuel or cordwood should most logically be sold by weight as are other fuels, but it is usually sold by volume, by the cord, or by the "load." The consumer should not buy by the load, for this is an ambiguous and variable quantity and leaves too much room for carelessness or sharp practice on the part of the seller.

Those who expect to use wood to provide a considerable part of their heat supply during the coming winter, will find it well worth while to refer to one or both of the following pamphlets:

Wood Fuel in Wartime, Farmers' Bul. 1912, U. S. D. of A. 10c, from Supt. of Docs., Washington, D.C.

How to Burn Wood, Publication No. 33d. Free, from Connecticut Forest and Park Assn., 215 Church St., New Haven, Conn.

Off the Editor's Chest

(*Continued from page 2*)

health workers, that 'Children need concentrated sugar foods for energy.' Balance studies in diet therapy clinics, however, have proved that this notion, too, is false. Children, like automobiles, do not require 'ethyl' carbohydrates for quick-starting; they can get along on 'regular' carbohydrates splendidly. Starting with a basic diet which has almost no sugar and very little starch in it, the acid-forming bacteria in a person's mouth can be reduced drastically in two weeks. . . .

"For the last six years I have watched low-sugar diets stop cavities for entire families in my own practice."

Dr. Russell Wilder of the Mayo Clinic and the National Research Council in a Symposium on Nutrition in Industry criticized the tendency of industrial workers to eat high carbohydrate meals and then turn to sugar between meals to keep up their energy. He pointed out that "The more of this drinking of soft drinks between meals or eating of rich carbohydrate foods, such as candy bars, at those times of the day when one feels weak and empty, the more likely one is to need to continue to do so, and for that reason. . .there is some reason to think that eating sugar instead of correcting fatigue may lead ultimately to an increased sensitivity to fatigue."

In a three year study of tooth decalcification at New York University, Dr. Samuel C. Miller, aided by Professor Isaac Neuwirth, discovered that hard candies which were sucked or dissolved slowly in the mouth were the cause of much damage to the teeth. These candies were often 99 percent cane sugar.

Over a period of six years, Drs. Sladen, Ensign, and McColl of Detroit studied the eating habits of 138 patients with arthritis and 148 patients without the disease. It was discovered that those with chronic arthritis had a craving for sweets and had a tendency to choose sugars and sweets, refined cereals and pastries, potatoes and white flour, rather than unrefined cereals, dairy products, fruits and vegetables.

In the September 1942 issue of The American Review of Tuberculosis, Dr. Benjamin P. Sandler (now lieutenant commander in the Navy) and Dr. Rudolph Berke (now captain in the Army Medical Corps) published a formidable array of evidence to show that a high carbohydrate diet (sugar and starches) was a prime factor in lowering human resistance to tuberculosis and other ailments such as peptic ulcer, angina pectoris, hypertension, chronic abdominal pains and certain neurotic disorders.

Twenty-nine students at the University of Iowa who were afflicted with acne in various stages of severity acted as guinea pigs for experiments by Drs. Grace E. Williams and Ruben Nomland. In a course of treatments ranging from four to six months it was discovered that the most effective results in clearing up the trouble were achieved by a program of local skin cleanliness plus a diet low in carbohydrates, with complete elimination of candy.

Frederick Hoelzel of the University of Chicago has reported observations by himself and other investigators that cutting down on sugars and starches in the diet greatly reduced the number of colds that were caught during the year. Dr. Irving Cutler, well-known medical columnist, has pointed out that neuritis, which in some forms is caused by a dietary deficiency, strikes patients who have been deprived of an adequate amount of vitamin B_1 and those who have formed the habit of consuming large quantities of starches and sugars. It is enlightening to read in this connection the comments by Drs. Louis A. Rosenblum and Norman H. Jolliffe in a paper on "The Oral Manifestations of Vitamin Deficiencies" that "The excessive amounts of vitamin-free carbohydrate quickly deplete the body's meager stores of the vitamin B complex and deficiency symptoms appear after several days of parenteral feeding with dextrose [corn sugar]."

These few quotations are a mere sampling of the great accumulation of impressive evidence that the Sugar Research Foundation will have to deal with when it sets about marshalling evidence to prove that sugar is a *good* food.

The Council on Foods and Nu-

trition of the American Medical Association has already suggested that "the advertising of products like candy and soft drinks, which tend to be used excessively by many persons to the detriment of health" may well be subjected to the same control as that now placed over the advertising of alcoholic drinks. In these days when everyone is heartily sick of controls, and anxious to be back upon a basis of manufacture and buying and selling where every activity is not subject to special surveillance and censorship by some government agency, it is to be hoped that the sugar industry, in their attempts to sell their product, will have in mind the possible effect of unwise and narrow-visioned policies on their own business future and that of other manufacturers and advertisers.

For its own good the sugar industry had better direct the attention of its researchers, not to providing a basis for a high-pressure campaign to establish sugar as a vitamin carrier, as suggested by the scientific director of the Sugar Research Foundation, or as a food desirable for increased use by the millions, but to studying the chemical and physical properties of a substance whose possible *industrial* applications have been only slightly explored. There will be a large number of health and human rehabilitation problems arising from the war, due to injuries on the battlefront and the strains of high-tension activity in war work in factories under poor working conditions and with poorly selected and often poorly prepared foods. These will be difficult enough for nutritionists and medical men to combat on the scale that will be necessary, without their having also to deal with the problem of preventing restoration of the absurdly and dangerously high level of sugar consumption which has characterized the American public in recent years.

★★★

Winter Storage of Vegetables

THIS is the time of the year when winter storage of vegetables becomes a matter of wide interest. There are a number of factors that determine proper storage; the most important of these are temperature, humidity or moisture content of the surrounding air, air movement, and light. In addition, there are the questions of the condition of the crop when stored, and the variety. Most vegetables store best at temperatures slightly above freezing, in the range 33° to 40°F.

Higher temperatures increase the respiration rate and loss of water from the vegetable and the rate of using up of the stored food substances by processes within the cells. Storage of parsnips is said to be best at a low temperature just above the freezing point; on the other hand, a temperature lower than about 38°F is undesirable for potato storage, for the starches start to change back to sugar, although this process can be reversed if there is later storage at 50° to 60°F for a time. Not only should storage temperatures be in the correct range, but they should be as steady as possible; temperature fluctuations tend to increase the rate of deterioration.

Beets, carrots, turnips, and parsnips keep best in temperatures between 32° and 40°F and in high relative humidities of 90 to 98 percent. Onions, on the other hand, require a cool, and dry or only slightly moist atmosphere. Squash and pumpkins require relatively warm, dry air, and are damaged by moist, cool conditions.

Cabbage, root crops, and potatoes call for high humidities. On the other hand, if the humidity is much over 95 percent, there may be condensation of moisture or dew accumulating with a slight drop in temperature, and this tends to favor spread of organisms which produce rot, throughout the bins. Direct sunlight can do damage, for example, on potatoes and onions by causing greening, or with one type of celery, there may be a failure to blanch during storage. Good storage usually calls for maintaining dark conditions.

Vegetables to be stored should be disease-free and, so far as possible, free also from damage by insects; they should be handled in a way to avoid bruising, injury, or breakage. Early-maturing strains of cabbage do not keep as well as the late type, and Bermuda types of onions do not keep as well as some others. As a rule, vegetables to be stored should be a little under-mature, exceptions being onions, squash, and pumpkins; these three should be fully matured to store well.

Clearing the Windshield Under Winter Conditions

AUTO supply dealers have sold for a number of years windshield wiper attachments which are designed to prevent freezing of water on the windshield in cold, rainy, or sleeting weather. A typical form of the device is a cloth-covered holder containing crystalline material in block form. This is intended to be substituted for the regular windshield-wiper blade. Moisture soaked up by the cloth dissolves some of the salt contained in the cloth covering. This mixes with the water on the windshield, lowering its freezing point.

Three such devices have been examined and the active material has been found in all cases to be common salt. *Sleetex*, for example, which sells for 35c, consists of about 1/3 of a cent's worth of salt (figured on retail value) or sodium chloride enclosed in a cotton drill cloth sheathing mounted upon a metal back on which is fastened the usual wiper blade connection for attaching to the moving windshield-wiper arm. Not only is the *Sleetex* device grossly overpriced, for what is furnished, but the wiper does not work well for very long, for when the salt within the cloth covering has lost its shape, the wiper must be discarded, since it will no longer make even contact with the glass. It was found not to be possible to insert another salt block into the fabric without tearing the latter.

Sleet-Master and *Sleet King*, meant for the same purpose, are made so as to be refillable. The manufacturer of *Sleet-Master* took the curious line that he would "not sell chemical bars separately as usually by the time all three charges of the chemical are exhausted, the *Sleet-Master* has rendered such a large over-measure of satisfactory service that the owner is glad to purchase a complete new *Sleet-Master*."

All of these devices which rely upon salt for their action must receive a *C. Not Recommended* rating. Water solutions of salt are highly corrosive, and it is undesirable to permit such a solution to run down over the windshield upon the lacquered surfaces and other metal parts of the car.

Windshield-Wiper Attachments

C. Not Recommended

Sleet King (Sleetex Co. Inc., 404 Fourth Ave., New York City) 35c with 2 refills.

Sleet-Master (Anderson Co., Gary, Ind.) 50c with 2 refills.

Sleetex (Sleetex Co., Inc., 404 Fourth Ave., New York City) 35c.

* * *

Windshield preparations, which act to insure clear vision by causing water or mist particles to wet the glass and prevent the formation of minute separate water droplets of condensed moisture under conditions of heavy fog or mist, are often helpful, and usually effective for a time. These products are intended to be used at times when dew or steam would form on cold glass surfaces; the uneven light transmission through drops and droplets so formed often interferes seriously with vision in driving. Two typical proprietary products are described in the listings. Equally effective is a mixture of glycerin (which is available now) and a very mild abrasive like precipitated chalk applied to both sides of the windshield and wiped clean.

Detergents for Windshield Glass

B. Intermediate

Mystic (American Products Co., Cincinnati) 10c. A paste consisting of soap, synthetic organic detergent, a water-soluble liquid similar to glycerin and sodium metasilicate.

No-Fogg (Soilicide Laboratories, Montclair, N.J.) 35c. A 9 in. x 12 in. cloth impregnated with a sulfonated detergent.

Coatings for Preventing Windshield Fog

Another class of products is designed to deal with "inside-of-car fog." These consist of sheets of non-waterproof cellophane glued to the inside of the windshield and sometimes also to the side-window glass. Satisfactory kits, which include a number of cellophane sheets, adhesive, and instructions for application, are:

Cler-Vue (Montgomery Ward's Cat. No. 61—4950) 62c plus postage.

Sta-Clear (Sears-Roebuck's Cat. No. 28—7835) 65c plus postage.

Visi-Clear (Visi-Clear Products, 1244 North Dearborn St., Chicago) 60c postpaid.

Cheesecloth

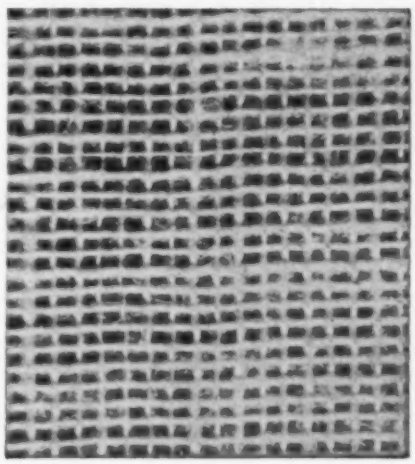
★ ★ ★

CHEESECLOTH has an all-year-round function in homes where it is used for cleaning and polishing furniture and for furbishing the family automobile. In some households, it may be used as a temporary window screen or as a dust filter at furnace registers.

Housewives find two or three thicknesses of closely woven cheesecloth convenient for straining fruits and jellies. Gardeners use loosely woven cheesecloth to protect plants and small fruits from insects and birds; its open weave does not shade the plants too much from the sun.

For many purposes, only the cost per yard needs to be considered by the consumer. But for others, the thread count, bursting strength, or freedom from lintiness are important. All these factors are given consideration in the listings; for the convenience of those interested chiefly in relative cost, the price per yard is given.

Cheesecloth was originally used for wrapping cheese, and the term is now generally applied to a loosely woven unbleached or bleached cotton fabric (sometimes known as gauze, and in coarser weaves, called tobacco cloth), with a thread count somewhere between 20 x 12 and 44 x 40. The closer woven grades are not generally found on the consumer market. Because of the large demand by the armed services for "cheesecloth" for use as surgical gauze dressings, there is presently a scarcity of this commodity for civilian use. The small two-yard packages sold in the five-and-ten-cent stores and auto accessory stores are usually made up from scrap and remnants of bolts from large manufacturers of surgical and military gauzes.



This is not one of the samples as sold to ultimate consumers, but a true cheesecloth, with the high yarn count 44 x 36. Magnification: 4×.

Of the nine brands purchased for test by Consumers' Research, for example, not one had a thread count any where near as high as the 44 x 36 thread count cheesecloth generally used in industry.

Two of the samples tested were of a fabric called "Rymplecloth." This is a low count cloth that has been processed to impart a crimp to the threads. The process adds some fictitious density to the weave, and some resiliency, useful in a material for polishing. Unless otherwise noted cloths were 36 inches in width.

A. Recommended

Chix No-Lint (Distributed by F. W. Woolworth stores) 10c per yd. Thread count 31 x 28. Bursting strength good. Ranked second of all cloths tested. In the test for linting qualities, only a trace of lint was found to be left by *Chix No-Lint* used to polish plate glass. **2**

Curity, Grade 70 (Kendall Mills, Walpole, Mass.) 15c per yd. Thread count 36 x 30 (easily the best in the group tested). Bursting strength good, best of all tested. No lint. **3**

B. Intermediate

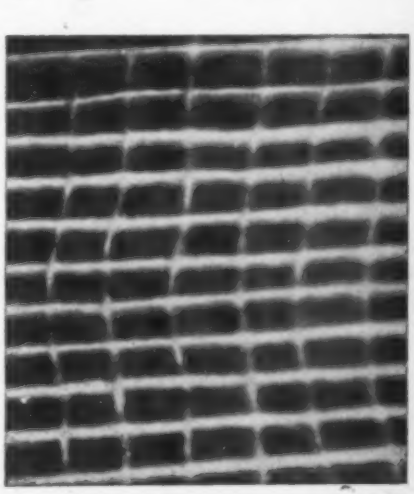
The following four were on most points pretty much alike in quality. Judged good enough for most uses except such as screening and others calling for high strength.

Blossom (Distributed by W. T. Grant stores) 5c per yd. Thread count 20 x 12. Bursting strength slightly above average. Left no lint. **1**

Family Friend (Sears-Roebuck's Cat. No. 96—1692, believed to be the same as Cat. No. 96—2365 in 1944 Spring and Summer catalog) 4.1c per yd., plus postage. Thread count 20 x 12. Bursting strength slightly below average. Very faint trace of lint. **1**

Wards, Cat. No. 16—7210 (A Chix Product, Chicopee Sales Co., 40 Worth St., New York City; distributed by Montgomery Ward & Co.) 5 yd. at 4c per yd., plus postage. (Same fabric distributed by F. W. Woolworth stores, 10c for 1½ yd. at 6.7c per yd.) Thread count 20 x 12. Bursting strength slightly below average. Very faint lint with one sample, none with other. **1**

Marco (Marsales Co., Inc., 320 B'Way, New York City) 7.4c per yd. Thread count, average of 3 samples, 19 x 13. Bursting strength slightly above average. One sample showed no lint, two showed traces of lint. **2**



Grant's Blossom Brand, *representative of* B *group. Magnification:* 4×.

C. Not Recommended

The *Rymplecloths* were marked with their size before processing, which is misleading as their actual size was approximately 25% less.

Sleekies (The Sitroux Co., 468 Fourth Ave., N.Y.C.; distributed by S. S. Kresge & Co.) 5c per yd., 33 in. wide. Thread count 18 x 12. Bursting strength lowest of cheesecloth samples tested. A trace of lint. **1**

Wards Polishing Rymplecloth (Montgomery Ward retail stores) 8c per yd. Unbleached. Thread count 17 x 11; when held taut 14 x 9. Bursting strength lowest of all samples tested. Only 26 in. wide, which would make cost on basis of 36-in. width comparable with other samples, 11c per yd. Some lint. **2**

Kendall Absorbent Rymplecloth (Kendall Mills, Walpole, Mass.) 11c per yd., 26 in. wide. (15c per yd. on 36-in. width basis.) Unbleached. Thread count 16 x 13; when held taut, 14 x 9. Bursting strength very low. Some lint. **3**

CR receives many requests for assistance in the preparation of articles and talks about consumers, the consumer movement, and Consumers' Research. In order to meet this need, we have assembled a number of collections of papers, mimeographs, clippings, etc., on the subject, which are available for loan. The material is available for a two-weeks' period to any subscriber, or to anybody introduced or endorsed in writing by a subscriber, upon written application. Requests for the loan should be accompanied by a deposit of $4 (to assure the return of the material, complete and in good condition, within the time limit), all of which charge, except sufficient to cover CR's outlay for postage, will be refunded upon return of the material to CR in good order.

In making requests for material of this sort, please specify in as detailed a manner as possible the subject to be discussed and the particular aspects of it which are of particular interest or which will be considered most fully in the article or paper.

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†indicates that listings of names or brands are included.

Ratings of Motion Pictures

This section aims to give critical consumers a digest of opinion from a number of reviews, ranging from the motion picture trade press to Parents' Magazine, which rates motion pictures not only on their quality as entertainment but on their suitability in various aspects for children.

It should be emphasized that the motion picture ratings which follow do not represent the judgment of a single person but are based on an analysis of the reviews appearing in some 20 different periodicals. (See January 1944 issue for sources of the reviews.)

The figures preceding the title of the picture indicate the number of critics who have been judged to rate the film A (recommended), B (intermediate), and C (not recommended).

Audience suitability is indicated by "A" for adults, "Y" for young people (14-18), and "C" for children, at the end of each line.

Descriptive abbreviations are as follows:

adv—adventure
biog—biography
car—cartoon
com—comedy
cri—crime and capture of criminals
doc—documentary
dr—drama
fan—fantasy
hist—founded on historical incident
mel—melodrama
mus—musical
mys—mystery
nov—dramatization of a novel
rom—romance
soc—social-problem drama
t—in technicolor
trav—travelogue
war—dealing with the lives of people in wartime
wes—western

A	B	C		
—	7	—	**Abroad With Two Yanks**	*war-com A*
1	9	6	**Address Unknown**	*war-dr A*
1	1	3	**Adventure in Bokhara**	*mus-com A*
1	4	—	**Adventure in Music**	*mus-doc AYC*
7	8	2	**Adventures of Mark Twain**	*biog AYC*
—	2	7	**Allergic to Love**	*mus-com A*
—	2	1	**Amazing Mr. Forrest, The**	*com A*
—	5	2	**American Romance, An**	*soc-dr-t AYC*
—	10	8	**And the Angels Sing**	*mus-com A*
—	8	5	**Andy Hardy's Blonde Trouble**	*com AYC*
—	2	8	**Are These Our Parents?**	*soc-mel A*
—	3	3	**Arizona Whirlwind**	*wes AYC*
2	7	—	**Arsenic and Old Lace**	*cri-mel A*
—	4	5	**Atlantic City**	*mus-com A*
3	8	—	**Attack**	*war-doc A*
—	2	2	**Babes on Swing Street**	*mus-com AYC*
—	8	9	**Barbary Coast Gent**	*wes-mel A*
2	12	2	**Bathing Beauty**	*mus-com-t A*
—	1	5	**Beneath Western Skies**	*wes AYC*
—	2	7	**Bermuda Mystery**	*mys-mel AYC*
—	8	7	**Between Two Worlds**	*fan A*
—	5	5	**Big Noise, The**	*com AYC*
—	1	6	**Black Magic**	*mys-mel A*
—	3	7	**Black Parachute, The**	*war-mel A*
—	3	4	**Block Busters**	*com A*
1	5	3	**Bride by Mistake**	*com A*
1	11	5	**Buffalo Bill**	*wes-biog-t AYC*
—	—	7	**Call of the Jungle**	*mel A*
—	3	—	**Call of the Rockies**	*wes AYC*
—	—	5	**Call of the South Seas**	*mel A*
—	12	1	**Candlelight in Algeria**	*war-mel A*
1	11	—	**Canterville Ghost, The**	*mys-com AYC*
2	7	5	**Casanova Brown**	*com A*
—	4	3	**Charlie Chan in The Chinese Cat**	*cri-mel AYC*
—	5	10	**Christmas Holiday**	*mus-dr A*
—	3	—	**Climax, The**	*mus-dr-t A*
—	3	—	**Coastal Command**	*war-doc AYC*
—	4	11	**Cobra Woman**	*mel-t A*
—	1	6	**Contender, The**	*mel AYC*
—	7	1	**Cowboy and the Senorita**	*mus-wes AYC*
—	1	2	**Cowboy Canteen**	*mus-wes AYC*
—	4	6	**Crime by Night**	*cri-mys A*
—	2	6	**Cry of the Werewolf**	*cri-mel A*
—	8	2	**Dangerous Journey**	*adv AY*
—	2	2	**Dark Mountain**	*cri-mel A*
—	6	11	**Days of Glory**	*war-mel A*
—	—	4	**Dead Man's Eyes**	*mys-mel A*
—	2	3	**Delinquent Daughters**	*cri-mel A*
—	1	2	**Delinquent Parents**	*mel A*
—	5	3	**Detective Kitty O'Day**	*cri-mys A*
—	1	4	**Dixie Jamboree**	*mus-com AYC*
3	10	3	**Double Indemnity**	*cri-mel A*
—	7	4	**Doughgirls, The**	*com A*
5	6	4	**Dragon Seed**	*war-dr A*
—	3	2	**Drifter, The**	*wes AYC*
—	2	3	**1812**	*war-dr A*
—	2	4	**Enemy of Women**	*war-dr A*
2	13	4	**Eve of St. Mark, The**	*war-dr A*
—	2	1	**Ever Since Venus**	*mus-com AYC*
—	7	3	**Falcon in Mexico, The**	*cri-mys A*
—	—	6	**Follies Girl**	*mus-com A*
—	12	6	**Follow the Boys**	*war-mus-com AYC*
—	4	2	**Follow the Leader**	*cri-com A*
—	6	—	**Forty Thieves**	*wes AYC*
—	5	2	**Forty-Eight Hours**	*war-mel A*
—	9	8	**Four Jills in a Jeep**	*war-mus-com A*
1	4	4	**Frenchman's Creek**	*rom-t A*
—	4	1	**Frontier Outlaws**	*wes AYC*
—	5	3	**Gambler's Choice**	*cri-mel A*
5	10	1	**Gaslight**	*mys-mel A*
—	6	8	**Ghost Catchers**	*com AYC*
—	3	7	**Gildersleeve's Ghost**	*com A*
—	3	6	**Girl in the Case**	*mel AYC*
—	—	5	**Girl Who Dared, The**	*mys-mel A*
—	—	4	**Goin' to Town**	*com A*
—	3	5	**Goodnight Sweetheart**	*com A*
—	4	3	**Goyescas**	*mus-com A*
—	3	—	**Great Mike, The**	*dr AYC*
—	5	4	**Great Moment, The**	*biog-dr AYC*
—	15	3	**Greenwich Village**	*mus-com-t A*
—	—	3	**Gunsmoke Mesa**	*mus-wes AYC*
—	4	4	**Gypsy Wildcat**	*mus-mel-t AYC*
7	9	—	**Hail The Conquering Hero**	*war-com A*
—	11	6	**Hairy Ape, The**	*soc-dr A*
—	3	3	**Heavenly Days**	*com AYC*
—	5	3	**Henry Aldrich Plays Cupid**	*com AYC*
—	6	1	**Henry Aldrich's Little Secret**	*com AYC*
—	6	6	**Her Primitive Man**	*com A*
—	5	2	**Heroes Are Made**	*war-mel-propaganda A*
—	7	—	**Hey, Rookie**	*war-mus-com AYC*
—	7	2	**Hi, Good Lookin'**	*mus-com AYC*
—	3	—	**Hidden Valley Outlaws**	*wes AYC*
1	7	10	**Hitler Gang, The**	*war-dr-propaganda A*
2	13	—	**Home in Indiana**	*com-t AYC*
—	6	6	**I Love a Soldier**	*war-com A*
2	8	5	**Impatient Years, The**	*war-com A*
—	8	10	**In Society**	*mus-com AYC*
—	3	3	**In the Meantime, Darling**	*war-dr A*
—	4	6	**Invisible Man's Revenge, The**	*mys-mel A*
1	14	2	**It Happened Tomorrow**	*com A*
—	6	3	**Jam Session**	*mus-com A*
—	6	2	**Jamboree**	*mus-com AYC*
1	7	2	**Janie**	*com A*
—	7	4	**Johnny Doesn't Live Here Any More**	*fan A*
—	5	6	**Jungle Woman**	*mel A*
—	3	4	**Kansas City Kitty**	*mus-com A*
1	11	1	**Kismet**	*fan-t A*

A	B	C		
—	2	14	**Ladies Courageous**	*war-dr A*
—	2	8	**Ladies of Washington**	*war-mel AYC*
—	5	5	**Lady and the Monster, The**	*mys-mel A*
—	3	4	**Lady in the Death House**	*mys-mel A*
—	1	2	**Laramie Trail, The**	*wes AYC*
—	3	—	**Last Horseman, The**	*wes AYC*
—	2	4	**Last Ride, The**	*cri-mel A*
—	1	5	**Law Men**	*wes AYC*
—	1	5	**Leave it to the Irish**	*cri-mel A*
—	2	1	**Lili Marlene**	*war-mel A*
—	4	—	**Lost in a Harem**	*mus-com AYC*
—	2	6	**Louisiana Hayride**	*mus-com AYC*
—	6	1	**Lumberjack**	*wes AYC*
—	1	6	**Machine Gun Mamma**	*mel A*
—	3	4	**Mademoiselle Fifi**	*soc-dr A*
—	8	1	**Maisie Goes to Reno**	*com A*
—	3	9	**Make Your Own Bed**	*com A*
1	8	4	**Man from Frisco, The**	*war-dr AYC*
1	7	3	**Marine Raiders**	*war-dr AYC*
—	1	2	**Marked Trails**	*wes AYC*
—	1	5	**Marriage is a Private Affair**	*com A*
—	2	1	**Marshal of Reno**	*wes A*
—	7	4	**Mask of Dimitrios**	*cri-mel A*
—	4	—	**Master Race, The**	*war-dr A*
—	5	9	**Meet the People**	*war-mus-com A*
8	5	—	**Memphis Belle, The**	*war-doc-t AYC*
—	2	1	**Men of the Sea**	*war-mel AYC*
1	14	2	**Merry Monahans, The**	*mus-com A*
—	8	1	**Minstrel Man**	*mus-com AYC*
2	8	8	**Miracle of Morgan's Creek, The**	*com A*
—	3	5	**Monster Maker, The**	*mel A*
—	3	6	**Moon Over Las Vegas**	*com A*
—	2	3	**Moonlight and Cactus**	*mus-wes A*
3	8	5	**Mr. Skeffington**	*nov A*
—	10	4	**Mr. Winkle Goes to War**	*war-nov AYC*
3	2	—	**Mrs. Parkington**	*dr A*
—	3	6	**Mummy's Ghost, The**	*mys-mel A*
—	6	2	**Music in Manhattan**	*mus-com A*
—	2	8	**My Best Gal**	*mus-dr AYC*
—	3	2	**Mystery Man**	*wes AYC*
—	3	1	**National Barn Dance**	*mus-com AYC*
—	4	—	**Negro Soldier, The**	*war-doc A*
—	6	3	**Night of Adventure, A**	*cri-mel A*
2	14	2	**No Time for Love**	*com A*
—	6	3	**Oh, What a Night**	*cri-mel A*
—	14	1	**Once Upon a Time**	*com-fan AYC*
—	3	3	**One Inch from Victory**	*war-doc A*
—	1	3	**One Mysterious Night**	*cri-mel AYC*
1	4	2	**Our Hearts Were Young and Gay**	*com AYC*
—	2	4	**Outlaw Trail**	*wes AYC*
—	2	4	**Outlaws of Santa Fe**	*wes AYC*
—	2	7	**Pardon My Rhythm**	*mus-com AYC*
—	3	3	**Partners of the Trail**	*wes AYC*
—	7	3	**Pearl of Death**	*cri-mel AYC*
—	1	2	**People's Avengers**	*war-doc A*
1	10	6	**Pin-Up Girl**	*war-mus-com-t A*
—	5	4	**Port of Forty Thieves**	*mys-mel A*
—	2	3	**Raiders of Red Gap**	*wes AYC*
—	3	—	**Raiders of Sunset Pass**	*wes AYC*
—	3	3	**Rainbow Island**	*mel-t A*
—	5	2	**Range Law**	*wes AYC*
—	3	2	**Reckless Age**	*mus-com AYC*
—	1	7	**Return of the Ape Man**	*cri-mel A*
—	3	4	**Riders of the Deadline**	*wes AYC*
—	4	2	**Riding West**	*mus-wes AYC*
—	5	8	**Roger Touhy, Gangster**	*mel A*
—	5	4	**Rosie, the Riveter**	*mus-com A*
—	1	5	**Sailor's Holiday**	*war-com A*
—	7	2	**San Diego, I Love You**	*com AYC*
—	3	2	**San Fernando Valley**	*mus-wes AYC*
—	7	2	**Scarlet Claw, The**	*cri-mel A*
—	11	3	**Secret Command**	*war-mel A*
—	4	3	**Secrets of Scotland Yard**	*war-mys AYC*
2	16	—	**See Here, Private Hargrove**	*war-com AYC*
—	4	6	**Sensations of 1945**	*mus-com A*
—	5	9	**Seven Days Ashore**	*war-mus-com A*
—	3	3	**Seven Doors to Death**	*cri-mel A*
1	7	4	**Seventh Cross**	*war-mel A*
—	3	3	**Shadows in the Night**	*cri-mel A*
—	2	4	**Shake Hands with Murder**	*cri-mel AYC*
—	5	4	**She's a Soldier, Too**	*war-com AYC*
—	11	4	**Shine On, Harvest Moon**	*mus-biog-t AYC*
1	14	3	**Show Business**	*mus-com A*
—	4	3	**Sign of the Cross (re-issued)**	*hist-dr A*
—	1	3	**Silent Partner**	*cri-mys AYC*
—	2	1	**Silver City Kid**	*wes A*
5	6	2	**Since You Went Away**	*war-dr AYC*
—	2	4	**Sing, Neighbor, Sing**	*mus-com AYC*
—	1	4	**Singing Sheriff, The**	*mus-com AYC*
—	1	7	**Slightly Terrific**	*mus-com AYC*
1	5	—	**Song of Nevada**	*mus-wes AYC*
1	8	1	**Song of the Open Road**	*mus-com AYC*
—	4	1	**Sonora Stagecoach**	*wes AYC*
—	2	3	**Soul of a Monster**	*mys-mel A*
—	2	6	**South of Dixie**	*mus-com A*
—	2	5	**Stars on Parade**	*mus-com A*
—	13	4	**Step Lively**	*mus-com A*
—	4	6	**Storm over Lisbon**	*war-mel A*
1	9	7	**Story of Dr. Wassell, The**	*war-biog-t A*
—	9	3	**Summer Storm**	*dr A*
—	3	2	**Sundown Valley**	*wes AYC*
—	9	2	**Sweet and Lowdown**	*mus-com AYC*
—	3	6	**Take It Big**	*mus-com A*
—	9	8	**Take It or Leave It**	*com A*
1	3	—	**Tall in the Saddle**	*wes AYC*
—	4	11	**Tampico**	*war-mel A*
—	5	4	**Taxi to Heaven**	*mus-com AYC*
—	—	5	**Teen Age**	*soc-mel A*
—	—	3	**That's My Baby**	*mus-com AYC*
—	1	3	**They Live in Fear**	*war-dr A*
—	6	1	**They Met in Moscow**	*mus-com AYC*
1	8	4	**This Is the Life**	*rom AYC*
—	9	1	**Three Little Sisters**	*mus-com AYC*
—	4	10	**Three Men in White**	*com AYC*
—	—	5	**Three of a Kind**	*com A*
1	3	—	**Thunder Rock**	*soc-dr A*
—	3	8	**Till We Meet Again**	*war-mel A*
—	3	—	**Trail of Terror**	*mus-wes AYC*
—	6	3	**Trocadero**	*mus-com AYC*
—	4	1	**Tucson Raiders**	*wes AYC*
4	5	—	**Tunisian Victory**	*war-doc AYC*
—	—	7	**Twilight on the Prairie**	*mus-wes AYC*
3	13	1	**Two Girls and a Sailor**	*mus-com AYC*
—	1	5	**Two Soldiers**	*war-dr A*
—	2	5	**Two-Man Submarine**	*war-mel AYC*
—	3	6	**U-Boat Prisoner**	*war-mel A*
—	10	6	**Uncertain Glory**	*war-mel A*
—	4	2	**Underground Guerrillas**	*war-mel A*
1	14	1	**Up in Arms**	*war-mus-com-t A*
—	8	7	**Up in Mabel's Room**	*com A*
—	3	2	**Valley of Vengeance**	*wes AYC*
—	2	1	**Vigilantes Ride, The**	*mus-wes AYC*
3	7	5	**Voice in the Wind**	*war-dr A*
—	1	6	**Voodoo Man, The**	*mys-mel A*
—	1	6	**Waterfront**	*war-mel A*
—	4	6	**Wave, a Wac, a Marine, A**	*com A*
—	4	4	**Weird Woman**	*cri-mys A*
—	3	3	**Westward Bound**	*wes AYC*
1	1	3	**We've Come a Long Way**	*doc-propaganda AYC*
—	4	—	**When Strangers Marry**	*mys-mel A*
—	6	4	**Whistler, The**	*mys-mel A*
6	8	4	**White Cliffs of Dover**	*war-dr AYC*
10	5	1	**Wilson**	*biog-t A*
—	9	2	**Wing and a Prayer**	*war-mel A*
—	2	1	**Wyoming Hurricane**	*wes AYC*
—	9	5	**Yellow Canary**	*war-mys AYC*
—	6	2	**Yellow Rose of Texas**	*mus-wes AYC*
—	6	4	**You Can't Ration Love**	*mus-com AYC*
—	4	9	**Youth Runs Wild**	*soc-dr A*

The Consumers' Observation Post

(Continued from page 2)

watches. In sticking the dot to a wall, to woodwork, or other object, a fraction of a drop of water should be used to wet the adhesive surface; it's best not to moisten it with the tongue.

* * *

DOCTORS are busy people these days and the prospects that the end of the war will bring some easing of their present load are not good. The difficulty is, as one state journal of medicine points out, that premedical students are no longer being deferred from the armed services and with certain lack of replacements of those physicians who drop out of practice every year by reason of age or other conditions, sick people will have greater difficulties getting their needs attended to. The problem is already proving to be acute in rural and thinly populated areas.

* * *

RAYON HOSE may bag at the knees and wrinkle at the ankles but have a longer wear-life than silk according to studies made at the Kansas Experiment Station. Nylon, as nearly every woman would expect from her own experience, was found to have the longest life, with an average of 515.6 hours of wear. Rayon came next with 305.8 hours, while silk had a life of 154 hours. On a cost-per-day basis, nylon proved to be the cheapest at about 4 cents. Next came rayon at 5.3 cents, while silk was the most expensive, with a cost of a little over 10 cents per day. These findings with respect to rayon hose are misleading, however, since the 75 denier weight used corresponds to a five- or six-thread silk hose, instead of the three-thread silk which the researchers used for comparison, and the five- or six-thread silk naturally would give longer service. The 50 denier (though hard to find) rayon would have given a more practical and useful comparison.

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SUBSCRIBERS TO SCIENTIFIC JOURNALS have been warned by one journal to be on their guard against a new racket. It appears that offers are being received in some cases from unknown individuals for the purchase of sets of back numbers. (This is no doubt a reflection of the current increase in public interest in scientific and technical questions.) It appears that in some cases owners of back numbers of important scientific journals have shipped them to the addresses given but the promised remittance was never received, in spite of much correspondence and promises to pay. The wise precaution to take in such cases would be to send the material only on a strictly C.O.D. basis, by parcel post or express collect.

* * *

RESTAURANT AND BOARDING HOUSE MASHED POTATOES are likely to have lost most of their vitamin C content. Only where the family is small so that potatoes can be mashed two or three minutes before they are served will they be likely to retain the "anti-scorbutic" (scurvy-preventing) vitamin, reports Science News Letter. Researches in England indicate that when a large batch of potatoes is mashed (on a mass-production basis) and held on the steam table for thirty minutes they had only one-tenth as much vitamin C as when they were first mashed.

* * *

YOUR RADIO SET will last longer if it is warmed up occasionally when not in regular use. Frequent turning on and off is bad for a set, and so is not turning on and off. Occasional "warming up" of a set is especially helpful in damp weather, and in coastal, swampy, or river regions.

* * *

HOLDERS of "A" RATION BOOKS should take special care of car batteries that may not receive enough "exercise" under gasoline restrictions in certain areas to keep them fully charged. In city traffic, the driving mileage permitted under basic rations will often be insufficient to keep a battery in condition. A continuous trip of at least 45 miles on the open road would be needed to keep the battery in a proper state of charge. It has been recommended that "A" book motorists in the areas where A-coupon allowances have been reduced have their car batteries charged at least once a month and be sparing in their use of radio and heater. Even tires suffer from complete disuse, and it is wise to run the car for a short distance once or twice a week rather than to allow it to stand entirely unused.

* * *

SOYBEAN BUTTER may be good "for them as likes it" but the average consumer is likely to consider it a product of dubious quality. When roasted soybeans are ground, they require the addition of some fat or oil to give them spreading quality. They also lack flavor, and to remedy this defect peanuts are sometimes added. They are held to have a high nutritive value, but soybeans in this form would not appear to be the most appetizing way of enlisting the public's interest in them.

Consumers' Research, Inc.
Washington, New Jersey

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PHONOGRAPH RECORDS

By Walter F. Grueninger

Please Note: Prices quoted do not include taxes. In the ratings AA indicates highly recommended; A, recommended; B, intermediate; C, not recommended.

RECORD sets, new and re-issues, recommended during the past may offer a guide to your Christmas giving—if you keep in mind the tastes of your friends. The following sets in the orchestra, chamber music, and instrumental fields are the outstanding records that I should like friends to give me. Sets in other fields will appear next month.

In the orchestra group the French school is represented by Milhaud's intriguing *Suite Provencale*, Victor Set 951, $2.50; Chausson's melodious *Symphony in B Flat Major*, Victor Set 950, $4.50; and the widely appealing re-issues—Bizet's *Carmen Suite*, Columbia X144, $2.50 and Offenbach's *Gaité Parisienne*, Columbia X115, $2.50.

Add to this Bach's thrilling *Prelude and Fugue* ("St. Ann"), Victor Set 958, $2.50; Haydn's outstanding *Symphony No. 103*, Columbia Set 547, $3.50; Mozart's *Symphony No. 34* (K338) Columbia Set 548, $3.50; Grieg's popular *Peer Gynt—Suite No. 1*, Columbia Set 180, $2.50 and the dramatic album of *Famous Overtures*, Columbia Set 552, $4.50.

In the field of string quartets I would welcome Beethoven's *Quartet No. 7*, Columbia Set 543, $6.50 and his *Quartet No. 15*, Columbia Set 545, $5.50; Mozart's *Quartet No. 16*, Columbia Set 529, $4.50. Other distinctive instrumental sets include: Schubert's *Sonatina No. 1*, Columbia Set X238, $2.50; Mozart's *Divertimento* (K563), Victor Set 959, $4.50; Debussy's *Sonata No. 3*, Columbia X242, $2.50 and for lighter moments, *Dinner Music*, Hit Set H110, $2.50.

ORCHESTRA

Bach: *Fantasia and Fugue in G Minor* (3 sides) and *Wir Glauben all' an einen Gott* (1 side). Minneapolis Symphony Orchestra under Mitropoulos. Columbia Set X244. $2.50. A tremendous organ work, played by Schweitzer in Columbia Set 270, which Mitropoulos has transcribed for orchestra. The orchestration seems blatant when compared with the organ recording, but some listeners may not object to that. Quiet surfaces. A re-issue. **Interpretation AA**
Fidelity of Recording A

Williams: Overture to *The Wasps*. Hallé Orchestra under Sargent. 2 sides, Columbia 71605. $1. Wit and British folksongs combine to make this a diverting work. Side 2 of my record clicks frequently. **Interpretation AA**
Fidelity of Recording A

Famous Overtures. London Philharmonic Orchestra under Beecham. 8 sides, Columbia Set 552. $4.50. One of the foremost conductors of our time, working with his own orchestra in England, gives us four recordings which set the pace despite many competitors. The overtures, all of which are part of the standard repertory, include "Roman Carnival," "Merry Wives of Windsor," "Don Giovanni," "Fingal's Cave." An outstanding album of previously released single discs. Quiet surfaces. **Interpretation AA**
Fidelity of Recording A

Instruments of the Orchestra. 4 sides, Columbia Set X250. $2.50. Excerpts from the symphonic repertoire introduce the instruments of the orchestra. Before each excerpt, a commentator names the instrument to be demonstrated. Intended solely for music appreciation classes. For that purpose, excellent. **Interpretation AA**
Fidelity of Recording AA

Operetta Potpourri. Marek Weber and His Orchestra. 8 sides, Columbia Set C100. $2.50. A small orchestra plays these delightful selections superbly. Of its kind, splendid. Included are selections from the "Gypsy Baron," "Die Fledermaus," "Student Prince," and "Countess Maritza." **Interpretation AA**
Fidelity of Recording AA

CONCERTO

Rachmaninoff: *Concerto No. 4*. Rachmaninoff (piano) and the Philadelphia Orchestra under Ormandy. 8 sides, Victor Set 972, $4.50. The composer's last concerto, which he introduced in 1927 and subsequently revised. Its appeal is limited. Extraordinary performance. Surfaces audible. **Interpretation AA**
Fidelity of Recording A

Tschaikowsky: *Concerto No. 1*. Petri (piano) and the London Philharmonic Orchestra under Goehr. 8 sides, Columbia Set M318. $4.50. A popular concerto. More exciting is the performance by Horowitz on Victor Set 800. Re-issue. Quiet surfaces. **Interpretation B**
Fidelity of Recording A

CHAMBER

Mozart: *Quartet in E Flat Major* (No. 16). Busch Quartet. 8 sides, Columbia Set 529. $4.50. A melodious, romantic work played with understanding. Resonant recording chamber. Quiet surfaces. **Interpretation AA**
Fidelity of Recording AA

VOCAL

Wagner: *Tristan und Isolde*—Excerpts from Act III. Melchior (tenor), Janssen (baritone). 10 sides, Columbia Set 550. $5.50. The eight sides recorded in Argentina offer less orchestral body and a sharper edge to the voice, particularly in loud passages, than the two sides recorded in our country. The recording in both cases, however, is satisfactory. The scene is nearly complete from the curtain through Tristan's death. Both of the singers are in good voice. When divorced from the stage production some of the drama is lost, but those who want the music are likely to find this album decidedly worth while. Quiet surfaces. **Interpretation AA**
Fidelity of Recording AA

Operatic Recital by Claudia Muzio (soprano). 8 sides, Columbia Set 259. $4.50. This gifted soprano, who died in 1936, has left us an extraordinary legacy chosen from her repertoire—arias from "La Traviata," "La Forza Del Destino," "La Boheme," "Andrea Chenier," "Norma," and other Italian operas. Recorded several years before her death. For a long time, one of my favorite operatic albums. A re-issue. Quiet surfaces. **Interpretation AA**
Fidelity of Recording AA

LIGHT AND FOLK

The Wayfaring Stranger. 8 sides, Columbia Set 103, $2.50. Burl Ives (tenor). A popular radio and nightclub personality, sings twelve American folk songs just right. The titles include "Cowboy's Lament," "Peter Gray," "Cotton-Eyed Joe," "I Know My Love," "Riddle Song," etc. Likely to please a very wide audience. **Interpretation AA**
Fidelity of Recording AA

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